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The German Luftwaffe in the Spanish Civil War

(Condor Legion)

Chapter I

The Spanish Civil War and the Intervention of the Condor Legion¹

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1956I. The Historical Background of the Spanish Civil War

Anyone who is interested in following the history of the employment of German military forces in Spain needs, as background, a short introduction into the political and military situation at that time.

There were sufficient grounds for dissatisfaction at all levels of Spanish society. Quite apart from this, the Spaniards -- like all proud nations which are aware of their past and their former wealth -- suffered deeply from the circumstance that their land was describing a downward curve in the history of the world. During the course of the nineteenth century, there had been every conceivable motivation for a revolution -- it was a century of political, religious, Separatist, dynastic, economic, and social struggle. Riots and bloody conflicts had become commonplace. The twentieth century had failed to placate Spanish emotions; on the contrary, it brought with it additional factors capable of arousing indignation. It is true that the wealth of the country

1 - Chapter I was written by Generaloberst a.D. Jaenecke, who was released from Russian imprisonment at the end of 1955. His account is based on Werner Beumelburg, Kampf um Spanien (The Struggle for Spain), as well as on personal impressions gained during a number of prolonged visits in the Spanish theater of operations. It lies in the nature of things that Jaenecke's personal evaluation of the situation is strongly emphasized.

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This study is a translation of a study originally written in German. Neither study was checked for accuracy or completeness.

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had grown tremendously, especially during World War I, from 1914 to 1918.

The way in which this increased wealth had been distributed, however, only served to emphasize the existing contrast between the enormous fortunes enjoyed by the few and the century-old poverty prevailing among the masses of the people.

While the intellectuals and the politicians held their long-winded speeches on the programs of the government, all in an atmosphere of rivalry and intrigue, the workers and peasants gradually became aware of their own interests and began to take steps towards their active advocacy. The ambitions of the military and the conservatism of the nobility and the clerical authorities took advantage of the general chaos to incite resistance movements or reactionary projects. Attempted assassinations became frequent, and a feeling of bitterness grew in the hearts of the Spaniards. King Alphonse XIII was well aware of the fact that thorough-going reforms were needed, yet he realized at the same time that he did not possess the power to effect them. His abdication was the most dignified step he could take under the circumstances. His act may have been the result of greater farsightedness than that possessed by other Spaniards, for he realized even then that the Civil War was imminent. In his abdication declaration of 13 April 1931, he wrote: "In all determination, I wish to avoid contributing in any way to developments capable of leading to civil war among the citizens of my country." His abdication did nothing to minimize the danger, however. On the contrary. It is true, of course, that the republic itself did not lead to civil war, yet it opened the door to certain elements which openly did their best to foment such a conflict.

During the period between King Alphonse's abdication in April 1931 and the outbreak of the Civil War in July 1936, the Spanish republic

2 - a

3

went through more than thirty governments, three general elections, an abundance of riots, an outbreak of Separatism in Asutria and Catalonia, a rapidly expanding collapse of administrative agencies, economic chaos, and the division of the country in a violent war between the classes. Spain was doomed to decline in a period during which other

countries had long since entrusted their fates to new personalities and, wielding unsuspected power, had taken their places in the circle of the great nations.

On 19 November 1933, the Spanish people elected a new Cortes (parliament). The Leftists, despite their utilization of terrorist tactics during the voting, were reduced from approximately 300 to 100 seats, while the Right Wing increased its representation from approximately fifty to 200 seats. But the parliamentary game already so familiar in Germany repeated itself here as well; the Right Wing, too weak by itself to win a clear majority, was deprived of its victory by the Left Wing in coalition with the Center. Nothing was done to save the country. The Anarchists, together with the Social Democrats, who had lost heavily in the election, combined with the Radicals. In Barcelona, Companys proclaimed the establishment of the Republic of Catalonia. In the Basque country, the misguided workers and peasants began to burn and plunder the first churches monasteries. In Madrid the Radicals reigned in the streets for days on end, exposing the population to horrifying terrorist outrages. In all three areas the government, with the help of the Army, succeeded in suppressing the rebels after heavy fighting. The Asturian Radicals managed to hold out for two whole weeks, and troops had to be brought from Madrid and Morocco in order to defeat them. The fighting in the jagged mountains around Orviedo claimed over 4,000 dead -- a terrible prologue to the events of the year 1936. The ringleaders, Azana and Prieto, were able to escape. They were later to play significant roles in the Civil War.

On 16 February 1936, the People's Front won 256 out of 473 seats in the general parliamentary election, thus achieving a clear majority. Spain's fate seemed to be sealed. One month later the Radicals demanded the arming of the proletariat, in order -- as they said -- "to have a

5 - a

Red army on hand at the victory of the Revolution!". At the same time, at Prieto's demand, President Zamora was deposed and Azana appointed in his stead. Madrid was under the sway of the Revolution with all its collateral phenomena. The mobs forced their way into cafes and restaurants and made the proprietors serve them food and drinks without charge;

they paraded up and down before the homes of the wealthy and smashed window-panes; they plundered grocery stores and beat up or killed anyone who tried to stop them. At the order of the Government, the police stood by and did nothing. No one went to work any more. The water and electricity supply systems broke down. The city echoed with the noise of the drunk and the fanatic.

At the beginning of July 1936, the deputy Calvo Sotelo took issue with the People's Front Party in the Cortes and reproached its members with a list of their crimes against the people. A Radical deputy, Passimaria, interrupted him in a loud voice and shouted to the assembly: "This fellow has opened his mouth for the last time!" Four days later, Calvo Sotelo and the young Jose Antonio Primo de Rivera, one of the white hopes of the Spanish nation, were brutally murdered. The Government of the Republic did nothing. The Falange, founded by Antonio Primo de Rivera, was overwhelmed with membership applications during the following days. The tension had reached the breaking-point.

The Republic had done its best to reduce the size of the Army and to dissipate its power. It now redoubled its efforts in this direction. High-ranking officers who seemed suspicious in any way were transferred or forced to resign. Entire units were deactivated, while the Government militia was quietly built up. Weapons depots were placed at the disposal of the workers' organizations. Everything was done in feverish haste, and in the meantime the mobs of the revolution openly ruled in the streets. Agents were everywhere. In reality they were military instructors. The first ships with their cargos of war materiel were already under way.

Among the generals slighted by the Republic was the 44-year old General Francisco Franco, founder and director of the military academy in Zaragoza, whom the first government of the Republic had appointed to the

4 - a

post of Chief of the General Staff. Later on, they began to view him with suspicion, and he was

summarily named military governor of the Canary Islands. Here, the government felt, he would be too far away to do any harm. The People's Front was far more afraid of a number of other generals, including Sanjurjo, who had instigated an abortive rebellion several years before; Mola, who was in command of a division in the north; and Lopez-Ochoa, who had put down the revolt in Asturia. The Front regarded the Army as such to be sufficiently widely dispersed to make it innocuous. Through its revolutionary societies among the troops, the Front had the Navy and the Air Force almost completely in its hands. Yet it had good reason to worry about the tightly organized units of the Falange, with their high morale and enthusiasm, and about the pro-Monarchist ~~leaders~~ Raquetes of Navarra, some 10,000 men, who were reserved and cautious in publicizing their disapproval of the goings-on in Madrid, Barcelona, and Valencia, but who were known to be a unit made up of experienced and disciplined soldiers.

The contagious enthusiasm with which their victory was celebrated in the streets led the politicians of the People's Front to overlook a number of very important things. For example, the news that General Franco had taken off from the Canary Islands on 17 July without any orders from the Government and had landed in Spanish Morocco caused relatively little excitement in Madrid. And when, on the evening of the ~~same~~ day, the young general called upon the entire garrison at Tetuan to join the fight against the Government in Madrid, the People's Front Government contented itself with commenting that Franco's undertaking was nothing but a ridiculous minor action, completely without significance. And at first the Government seemed to be right. During the course of 18 July nothing happened in continental Spain, at least nothing which was calculated to arouse the fears of Madrid.

II. The Outbreak of the Civil War. The Red People's Front and its Allies

Very soon it began to be apparent that the Reds were becoming less and less capable of ruling with a firm hand. The situation was most critical in Barcelona and, in fact, in all of Catalonia. There the Anarchists alone had almost all the power, and they lost no time in getting ahead of the all too systematic Communists and the eternally hesitant Socialists. It began with the implementation of the first point of the revolutionary program, the elimination of the social classes which stood in the way of rule by the proletariat. The purge was undertaken thoroughly and summarily, on the basis of previously prepared lists. The priests, monks, and nuns stood at the top of these lists, followed by the members of the right-wing parties, the Falangists (of course), and anyone who was even remotely suspected of Fascist tendencies. Then came the independent businessmen, the well-to-do, and, as a matter of fact, anyone and everyone who could be classified as a member of the bourgeois or capitalist classes. The lists were augmented by the names of those condemned to death because they had been denounced by someone else or because of a desire for revenge on the part of a list-maker. Day and night one could hear the rattling of the guns fired by the execution brigades, most of which operated entirely on their own initiative; their zealous activity was accompanied by the burning of churches and monasteries. As nearly as we can tell, an average of 100 executions took place each day in Barcelona alone. These added up to a rather tidy total during the course of the months.

The happenings in Barcelona were duplicated in about the same form all over the rest of Catalonia. Once the classes inimical to the proletariat had been removed, the government moved on to the next step, the establishment of a purely Anarchistic community system with the abolishment of all private property and the elimination of money. In certain other areas

in Spain under Red rule miniature soviet republics were set up in the rural regions.

In Madrid itself the revolution never progressed beyond the early stages, i.e. the revolutionists restricted themselves to the liquidation of the bourgeoisie. The total number of persons killed can be estimated only by reference to the number of dead bodies delivered to the morgues. By mid-November 1936, this total had reached 35,000. Let this figure suffice. During this reign of terror, the citizens of Madrid did not sleep at night, but stayed up, awake and trembling.

Despite all this, powerful foreign nations came to the aid of the government. Leon Blum's French People's Front government publicly proclaimed a policy of non-intervention and tried to get other foreign powers to follow suit, while the military aircraft of the French Air Minister, Pierre Cot, had already crossed the Spanish border. The first induction centers for Red volunteers had already been opened in France. Railway cars and trucks loaded with French war materiel, sold at a good profit, were already on their way to Red Spain.

Germany and Italy had already embraced the new ideology of Fascism, and if Franco and his Falangists were allowed to gain the victory in Spain, France would be surrounded by three totalitarian states. This would hardly be conducive to the security of the French nation. Thus every effort had to be made to avoid a defeat of the democratic forces in Spain.

But England's attitude served to prevent a French policy of all-out support of the People's Front in Spain. Under British pressure Blum was forced to refrain from any official intervention. Consequently France closed its eyes and continued to let through all volunteers who wanted to go to Spain, as well as whatever materiel was needed -- a highly profitable transaction.

England's position was difficult. On the one hand, she possessed impor-

7 - a

tant financial interests in Spain. The Rio Tinto mines, among the world's

8

richest copper deposits, were owned by British enterprises; British capital was invested in the mines in Asturia and the Basque country, in the industrial plants of Barcelona, in the railways and other public utilities. These assets, amounting to billions of pounds, were bound to be forfeited in the event that soviet republics should be established on the Iberian Peninsula. In addition, the British government could hardly be expected to welcome the inevitable increase Russian influence in Spain.

On the other hand, a Franco victory could appear no more desirable in British eyes. British foreign policy had suffered one defeat after the other during the preceding months, and it looked very much as if London were losing its influential hold over developments in Europe.

The balance of power, that traditional guideline of British policy which permitted England to cast her weight into either camp according to the dictates of necessity, was fast turning into a ~~de~~sequilibrium. Germany had regained the right of sovereignty over the neutralized Rhineland. Italy had occupied Ethiopia and laid the cornerstone for a new Mediterranean empire.

Spain's helplessness represented security for the French nation and protection for the British Empire. Thus it lay in England's interests that neither of the two parties should win a clear victory. Instead, the struggle should end in a draw, with some sort of compromise which would leave things in the status quo. Spain would emerge so weakened from her internal conflicts that she would be more than willing to entrust her fate to the benevolence of the British Empire.

And London wished to make sure that this desired outcome should not be influenced in any way as a result of the intervention of any other foreign power. This was the reason for British efforts to achieve a non-intervention agreement, the so-called embargo commission.

In contrast to British policy, the policy followed by Russia was clear and direct. But because of the confusion prevailing in the opinions held by the Spanish "Reds", the Russian ambassador, Rosenberg, had a very difficult time keeping the People's Front from committing too many serious blunders. Above all, Russia mobilized the entire Communist world to send volunteers to fight for the Red cause in Spain and furnished the People's Front with valuable help in the form of instructors and arms of all kinds. The international literature on the Civil War in Spain contains very little indication as to the extent of Russian aid; this is in keeping with the Russian passion for airtight security measures.

Nevertheless it is clear that Russia played a very great role, both psychologically and materially, in the Spanish Civil War. This statement will be substantiated later on.

On Sunday, 19 July, the situation changed fundamentally and suddenly. The garrisons at Madrid, Barcelona, Sevilla, Salamanca, Burgos, Valencia, Bilbao, Oviedo, Valladolid, and Avila revolted. The Spanish fleet and the Spanish air force joined them. In Navarra, the Raquetes shouldered their weapons. The Falangists mobilized for action. Gravely threatening news was received from Morocco.

On the same day the Madrid government withdrew, and a new government was formed, which immediately placed the militia units on alert status. The day began favorably for the Nationalists, but the two days which followed quickly altered the situation. In Madrid and Barcelona there were bloody massacres among the garrisons. The air force deserted the army and went over to the Reds. At the command of the government, the Reds among the sailors threw their officers overboard by the dozens and managed to seize control of all but

a few ships. The government in Madrid disbanded entire garrisons and issued orders that they be disarmed. Triumphant reports of a government victory were hastily sent out to the world. There was no news at all from Morocco. Hundreds of Nationalist officers committed suicide in order to avoid falling into the hands of the Reds. The revolutionary tribunals in Barcelona were the scene of feverish activity.

Three more days passed before the chaos began to give way to more or less definite outlines. Taking the nation as a whole, the results were not favorable to the Nationalists. It turned out that they had achieved victory only in a few specific localities, and these points lay so far apart from one another that there seemed to be hardly any possibility of continuing the liberation action systematically. Morocco, to be sure, was firmly in General Franco's hands. In Andalusia, General Queipo de Llano had seized possession of Sevilla by a coup de main. Whether or not he could manage to hold it was questionable. General Sanjurjo, selected by his comrades as leader of the liberation movement, had died in an air crash on his way back to Madrid from exile in Portugal. In Asturias, General Aranda was desperately holding his own against the Red forces, which had him trapped in Oviedo. In Pamplona, to be sure, General Mola had succeeded in gathering together parts of the regular army, the Raquetes, and the Falangists, but the result was hardly an armed force which one could employ in a decision-seeking operation. The Spanish fleet, which ruled over the intervening waters, served to keep General Franco cut off from the Spanish mainland. The majority of Spain's regular armed forces were in the hands of the Reds, including the entire air force and most of the navy. Nowhere did the Nationalist leaders, whose points of support were so far away from one another, hold points along the coast, which would have given them some measure of control over weapons shipments.

At no time in the history of the world were Europe's fate and future

10 - a

15

so uncertain as during those hot summer days of 1936. Very few of the nations or individuals aware of what was going on in Spain realized that the bloody game of politics being enacted there was bound to concern them all.

At this stage of developments, of course, one could hardly speak of a firm government by the Red People's Front. As early as 19 July,

16

the government had ordered the dissolution of all army units which might conceivably have been connected with the uprising or which were in any way suspicious. For all practical purposes, this order was tantamount to the dissolution of the entire army, i.e. including those portions of it which were still loyal to Madrid. In other words, the government deprived itself of the one instrument which might have been of inestimable value to it. The government hoped and believed that it could prevail with the exclusive help of the republican and revolutionary force made up of its Party adherents. The armed proletariat, however, and the Red militia proved to be absolutely useless in systematic military operations -- at least during the early stages of the war.

These armed mobs and the dreamers who led them -- there is really no other name we can give them during this period of developments -- had been organized by the various workers' associations and remained under their command. There was no central command agency and no superior organization. Each group did as it pleased, went to the front or remained at home, just as it wished. Each one carried out its own personal little military actions and insisted on the right to fight in full personal freedom and complete independence. Their commanders were usually political leaders, whom the armed proletariat trusted at this stage of the game just as implicitly as before, when they had taken command during labor strikes or political meetings. They were, however, no better prepared for war than the people whom they commanded. They had absolutely no idea of even the simplest principles of tactics. Optimistically, their followers were convinced that their leaders' enthusiasm would make up for their complete lack of technical knowledge. They thought that they needed no trained officers, and the men who were transferred from the army to the militia were in an even worse position. "Every member of the militia was convinced of his right to criticize the measures taken and the plans worked out by his officers. An attack postponed, an artillery battery placed less or more favorably, a

11 - a

17

cease-fire order -- all of these things could be interpreted as betrayal,
and countless officers were murdered at the front. If they had to die, then
at least it was better that they should die in honor."

18

Madrid at that time must have been a scene of complete chaos. As reported by an army officer attached to the government, people wasted everything -- food, materiel, means of transportation, and -- human life. The supply requests and requisition orders exceed all reasonable proportions. One day, for example, the commander of a front sector appeared in the offices of the general staff administrative section and requested 50,000 bread rations per day for his troops. "How many troops do you have?", he was asked. "Well", he replied, "there are the 5,000 who do the shooting, and 10,000 who appear to collect their pay of ten pesetas a day"(the amount set by the government for each militia man per day). "But what in the world will you do with 50,000 bread rations?" "Why, we need them, that's all!", was the reply.

Hundreds and hundreds of supply issue orders for all sorts of items went out every day -- for radios, fountain pens, typewriters, etc. Sometimes these orders bordered on the ridiculous, as when a militia man ordered one hundred brassieres for his unit!

Thus Madrid was plundered. Within a few days, most shops had run through their stocks and had nothing left on their shelves. And as if this were not enough, the government issued a decree requiring that employers continue to pay the wages of all those workers who had taken up arms for the Republic. It took only a very short time for this measure to ruin commerce and industry completely.

In spite of these conditions, Red leaders could have exploited the weakness and the geographical dissipation of the enemy's troops to suppress the resistance offered by his widely scattered strongholds and thus to rob him of a solid basis for successful continuation of the struggle. The morale of the Red forces was still good and they still boasted that they had all the money and all the weapons. They found it incomprehensible that anyone in his right mind could dare to resist them or

to wish to interfere with their political program.

In situations of this kind, insight, determination, and courage must be supplemented by rapid decisions. Nationalist Spain, small in its early stages and apparently not yet a factor to be reckoned with, had already made its decision. Franco and his comrades were determined to do everything in their power to salvage the situation, in spite of the fact that it was manifestly unfavorable for them, by relying on the forces which God, fate, and their own energy were bound to awaken throughout the country. They realized that the struggle would entail great sacrifices. But they were already one step ahead of their enemies in that their decisions were based on clear recognition of this fact.

Although their cause was almost hopeless and seemed to be lost from the very beginning, they found Germany willing to help them in their desperate situation.

III. Germany's Decision to Aid Franco

On 26 July 1936, in Bayreuth, Hitler received a delegation sent by General Franco from Tetuan, consisting of two German citizens residing in Spanish Morocco and one Spanish officer. The delegation presented Franco's urgent request that the German Reich place a number of transport aircraft at his disposal so that he could bring his Moroccan foreign legion and the native Moroccan troops to continental Spain. There was no doubt that the successful outcome of Franco's struggle to liberate Spain depended upon Germany's agreeing to his request.

On the same day, after discussions with Goering and with a number of other military leaders, Hitler decided that Franco's request should be granted without delay. The scope of the proposed action was limited exactly. Twenty Ju-52 transport aircraft were to be dispatched immediately to Sevilla and Tetuan. Piloted by Lufthansa captains, they were unarmed and

were to be used exclusively for transport purposes. Six armed He-51's were to follow by ship, assigned to take over the protection of the transport aircraft but to refrain on any attack on the enemy. Twenty 20 mm antiaircraft artillery cannon were included for defensive operations only.

On the evening of the same day, a special agency was established in Berlin to take care of any questions which might arise as a result of Hitler's order. The agency was designated the "Special Staff W" (Sonderstab W), under which name it took its place in the history of the Spanish Civil War. Later on, it became the central office in charge of fulfilling all the personnel and materiel requirements of the German volunteers fighting in Spain. This Special Staff was responsible for such an abundance of quiet and thorough work that one is hard put to find a similar example in the annals of military history. Suffice it to say that for a period of three years the Staff sent four transport aircraft from Berlin to Spain and back every week -- summer and winter, in all kinds of weather, across the Alps and over the Mediterranean -- with a loss of only three machines during the entire period. In addition, 170 ocean transports were dispatched to Spain, every single of which arrived safely at its destination.

During the very first discussions, the "Hispano-Moroccan Transport Co., Tetuan-Sevilla" (Hispano-Marokanische Transport A.G. Tetuan-Sevilla) was founded. The very next day the Company dispatched its first aircraft, taken over from the Lufthansa with all their operating personnel. At the same time, the rather peculiar "Union Travel Society" (Reisegesellschaft Union) was established under the leadership of Major Alexander Scheele, and its members soon began to gather at Döberitz. These were the first German volunteers for Spain, and they certainly deserve special mention. A more than adventurous fate lay in store for them, a fate which they were able to master by the conscious recognition of their destiny and by the uncompromising exploitation of their

21

14 - a

abilities.

The unusual political aspects of the situation necessitated

the strictest possible measures to maintain secrecy.

The orders issued in this connection were actually carried out so successfully that it was several years before the international Embargo Commission in London, whose task it was to keep all traffic to Spain under careful surveillance, was able to discover just how the German volunteers in Spain were being supplied.

The beginning of the Spanish Civil War naturally served to increase Hitler's determination to arm Germany and to free her from the restrictions of the Versailles Treaty.

As a matter of fact, Hitler's decision represented nothing new for Germany. Generaloberst von Seeckt and later the Minister, General von Schleicher, had already viewed the achievement of this goal as one of their primary missions in life.

At the time in question, Hitler was busily devising ways and means to bridge over Germany's lack of armaments and thus inadequate defensive power without at the same time taking too great a risk. His main worry at this juncture lay in the fact that France, which was extremely well-armed in comparison with Germany and which -- even more ominous -- was strongly infiltrated by Communists, might well decide to start a preventive war on its own initiative. And the actions of Pierre Cot, France's Air Minister, were hardly calculated to prove Hitler's fears groundless.

Even French observers feared for the stability and peace of the French nation during this period when the danger of Communist contagion was so grave.

Mussolini, obviously after having coordinated matters with his German colleague, had reached the same decision as Hitler. And Italy's participation in the Spanish Civil War, from the very beginning, was characterized by far stronger military and financial support than that of Germany.

As was clear from his discussions with Hitler, Mussolini hoped to achieve

15 - a

23

the following secondary goals:

As a result of the control exercised by the British over Gibraltar and the Suez Canal, Italy felt herself to be a prisoner of England in the Mediterranean. Mussolini viewed Italy's participation in the Spanish Civil War, coupled with the

danger of Communism, as a method by which Italy might establish herself in Spain and thus gain access to the Atlantic, enabling her to circumvest Gibraltar by utilizing the hoped-for right of free transit over Spanish territory and undisturbed use of Spanish ports.

Mussolini placed a number of warships, including three light cruisers, at General Franco's disposal, as well as the Division Littorio, two militia divisions, and a good deal of war materiel.

The number of German personnel participating in the Spanish Civil War never exceeded more than 5,500. Thus Italian participation was numerically considerably greater than German military aid to Spain. Nevertheless (and this can be stated without any fear of being accused of arrogance), the German aid was far more valuable and deserves to be rated far higher.

CHAPTER II

Activation, Organization, Strength, and Composition

of the Condor Legion; its Equipment, Leadership, Supply Line, and

Rear-Area CommunicationsI. The Activation of the Condor Legion²

Originally, German military aid to Spain was intended only to provide an airlift for the transport of Moroccan troops over the Mediterranean and to improve the training and the organizational aspects of Franco's Spanish armed forces. Active participation of German volunteers in the fighting in Spain was to be discouraged so that no evidence of German intervention could possibly come to light if prisoners should be captured. For anyone who is acquainted with the eagerness for combat inherent in the German soldier and officer, it is quite clear that it was completely unrealistic to expect them to stand on the sidelines and observe what was going on. Under the circumstances, it is no wonder that the German citizens living in Spain used all the means at their disposal to protest against the orders issued by their homeland. The early crash landings by Spanish pilots, the lack of skill demonstrated by the Spaniards in operating German tanks, the affair of the bombardment of the Red battleship Jaime I, and the system set up to supply the Alcazar in Toledo all contributed their bit towards making Hitler and Goering in Berlin more receptive to the wishes of the German volunteers.

The military missions to be accomplished in Spain increased rapidly in scope and variety, and as a result the number of volunteers in Spain also increased, so that -- in addition to Major von Scheele -- on 1 October 1936 Lieutenant Colonel (GSC) Warlimont was appointed to be in charge of German military aid to Spain.

2 - Based on information provided by Generaloberst a.D. Jaenecke in his contribution to the study.

At the same time, he was assigned to act as German military advisor to General Franco. At this point the scope of Italian military aid to Spain, which had already achieved impressive proportions, played a much larger role in Hitler's deliberations than proved to be justified in view of the fact, soon clear, that Italy's contribution had been grossly overrated. In any case, Franco's extremely difficult situation and the relatively large extent of Italian military support were the fundamental reasons behind Hitler's decision to order the activation of the Condor Legion (in late October 1936), in order to lend greater weight to the goals he hoped to achieve within the framework of the Spanish Civil War. For Hitler, despite his firmly emphasized friendship for Mussolini and his sympathies for Fascist Italy, was not really interested in permitting Italy to become too strong in the Mediterranean.

Hitler's decision was rapidly followed by concrete action.

The majority of the Luftwaffe units selected to form the Condor Legion were assembled at Stettin and Swinemünde and went on board ship at these ports -- all under the camouflage designation of a "winter exercise on the island of Rügen" (Winterübung Rügen). In order to avoid undue notice, the transport was routed by way of Skagen, rather than letting it utilize the North Sea-Baltic Canal. From Skagen it continued, under inconspicuous escort by the German Navy, through the English Channel and the Bay of Biscay to Cadiz. Here the troops were loaded into trains for the journey to Sevilla. They had embarked at Stettin and Swinemünde in uniform, but had changed to civilian clothes while at sea so that they could disembark as civilians and go ashore as bona fide volunteers. This particular transport involved some 4,500 troops. After their arrival in Sevilla, with the help of the units already there they were issued new uniforms (similar in appearance to those worn by the Spanish) and organized into units. The on-the-spot experience

18 - a

27

experience already gained proved to be of invaluable assistance here.

Another transport method was selected for the multi-engine aircraft units. They assembled at the airfield at Lechfeld, near Augsburg. From here they took off in small groups totalling approximately ten aircraft per day

(in order not to exceed Italian accommodation capacities) for the Italian airfield Campino Nord, near Rome. The crews spent the night in Rome and took off the following day. Their route led over Ostia and the Italian military harbor at Cagliari, located at the southern end of Sardinia, across the Balearic Islands to a point west of Malaga. From here, they flew over the mountain range to Sevilla. Italian warships were stationed along the entire over-water route to act as direction-finding beacons for the German crews during their first long-distance flight.

The entire transport operation had been so carefully planned and prepared that it was a complete success, with not a single loss among the thirty-three aircraft involved.

By the beginning of November 1936, then, the Condor Legion (as Germany's contribution was to be known from then on), including the smaller units which were there before it arrived and which were subsequently incorporated into it, was established in Spain.

II. The Organization of the Condor Legion³

The German forces already in Spain (one bomber squadron, one fighter squadron, one naval air squadron, one heavy antiaircraft artillery battery, one light antiaircraft artillery battery) were integrated into the newly arrived units.

3 - Beumelburg, op. cit., page 56; The note to the effect that there were two light antiaircraft artillery batteries in Spain prior to the arrival of the Condor Legion must be an error. There was only the light (20 mm) antiaircraft artillery training center, run by Technical Sergeant Hakenholt, which was later designated the 9th Battery.

Horst-Adalbert Koch, Die Geschichte der deutschen Flakartillerie 1935-1945 (History of the German Antiaircraft Artillery Forces, 1935-1945), pages 151/152.

Air War Academy Manual (Leitfaden der Luftkriegsschule), pages 178/179.
Köhler's Air Calendar (Fliegerkalender), 1940, "Einsatz der dt. Flakartillerie in Spanien" (Employment of German Antiaircraft Artillery in Spain), page 28.

In January 1937 an experimental bomber squadron (Versuchsbomberstaffel) was established, whose task it was to test and try out new aircraft models in operations against the enemy. This squadron was integrated into the Legion's bomber group as its fourth squadron in April 1937; in 1938 it was augmented by a flight of dive bombers.

The organizational structure of the Condor Legion was as follows:

<u>Entity</u>	<u>Designation</u>
Operations Staff	S/88
Air Units	
1 bomber group, made up of 4 squadrons and (as of 1938) 1 flight of dive bombers	K/88
1 single-engine fighter group, made up of 4 squadrons	J/88
1 aerial reconnaissance squadron	A/88
1 naval air squadron	AS/88
Antiaircraft artillery	
a) original units (1936) Light (20 mm antiaircraft artillery training center (Tech. Sgt. Hakenholt) (as of June 1936))	
Heavy Antiaircraft Artillery Battery "Aldinger"	
b) Final organization (1938) Antiaircraft Artillery Battalion Staff	F/88
Staff Batteries	
1st Battery (88 mm)	
2d Battery (88 mm)	
3d Battery (88 mm)	

III. Personnel Strength and Organization of the Condor Legion

Upon its arrival in Spain, the Condor Legion numbered 4,500 troops; counting those elements already there, the total was approximately 5,000. On the whole this number remained constant. In any case, the Condor Legion never exceeded a total strength of 5,600⁴.

The Legion was made up exclusively of volunteers and included not only commissioned and non-commissioned officers and enlisted personnel from all the various branches and sections of the Luftwaffe, but also Luftwaffe warrant officer personnel (Beamten) (administrative, technical, and meteorological personnel), as well as a limited number of civilians (e.g. as test pilots).

Volunteers of all ranks were relieved after a specific interval, not to exceed one year. The commander of the Legion, the staff chiefs, and staff members were relieved after about a year (as was also the case with the pilot personnel in the beginning), while all other personnel were normally relieved after about six months. The fighter pilots were sent home after downing five enemy aircraft.

The purpose of this personnel replacement system was to make available the largest possible number of combat-experienced soldiers to the German Luftwaffe, which was still in the early stages of growth.

As regards the selection process, each volunteer was expected to meet the usual requirements as far as character was concerned, and the pilot applicants, of course, the requirement of full professional mastery. In addition, the volunteers had to be in perfect health and relatively young; preference was given to those who were unmarried and without close family ties.

It is true, of course, that a certain inducement to volunteer was provided by the promise of specific advantages, such as preferential promotion, the chance to earn decorations, and very good pay (although in the beginning no definite promises were made as regards the kind and amount of payment). Yet, for the majority of the

2 - a

32

4 - Beumelburg, op. cit., page 175.

20 - a

30

4th Battery (20 mm)

5th Battery (20 mm)

6th Battery (88 mm) (originally a searchlight battery)

7th Battery (ammunition columns)

8th Battery (88 mm) (formerly the Aldinger Battery)

9th Battery (training unit for Spanish soldiers).

The light antiaircraft artillery batteries consisted of three 20 mm platoons and one 37 mm platoon each. A total of seven batteries (five heavy, two light) ultimately participated in operations.

One Luftwaffe Signal Communications Battalion, made up of Lm/88

1 telephone company

1 radio company

1 flight security company

1 aircraft reporting company

One air armament group, with aircraft park P/88

One medical battalion San/88

One meteorological service battalion W/88

Legionaires, the role played by these promises was of secondary importance.

The determining factor in the success of Germany's participation in Spain was the personal satisfaction to be gained by each individual from the confirmation of his own professional skill, his appreciation of the opportunity to take part in combat, and his keen interest in gathering impressions of an unfamiliar country and its inhabitants. Last but far from least, there was his pride in his own nation and his determination to prove a worthy representative of German military power abroad.

All this provided the basis which made it possible for the Legionaires to enter the struggle willingly and with a sincere determination to emerge victorious, despite the fact that the struggle was taking place in foreign territory, was dedicated to the achievement of extremely remote objectives, and was based on deep-rooted factors which the majority of Legionaires were quite incapable of evaluating.

The Condor Legion represented an elite force, composed of the most capable and best qualified members of the entire German Luftwaffe. The feats it accomplished during the operations in Spain will be described in the next chapter, dealing with the course of military events. It can be stated without exaggeration that the ability and the combat morale of each individual Legionnaire contributed materially to the outcome of the war.

It must be borne in mind that the entire situation -- the need for secrecy, the informal chain of command, and the very fact of being in a foreign country -- demanded a high degree of self-discipline from each and every member of the Condor Legion, and it was this self-discipline which created the definitive basis for the success of the operation as a whole.

A good deal of skill and the ability to improvise were also required of the Legion if it was to cope with the inadequacies and deficiencies encountered at every step in such a way as to prevent their having a derogatory effect

22 - a

34

on operations. This aspect is particularly deserving of mention in view of the fact that the Legionaires were accustomed to the firm and clearly-defined standards characterizing the chain of command, organization, administration, and supply of the armed forces in Germany.

Those errors and weaknesses which occurred in individual cases despite the great care exercised in the selection of personnel,

and which can probably never be eliminated entirely, were usually compensated for by the fine spirit of comradeship prevailing in the force as a whole. Any officer or enlisted man who proved in any way incapable of carrying out his share of the common task or who was guilty of misconduct was replaced without further ado and sent back to Germany. This principle, adhered to with ruthless consistency, naturally contributed a great deal to the fact that the units maintained a highly satisfactory record as far as the composition of their personnel was concerned.

In view of the unusual conditions, it was inevitable that the units as a whole, as well as the individual Legionnaire, should acquire somewhat the aura of an adventurer, in the best sense of the word. And this must be viewed as a positive development, for a parade-ground soldier, at his best in military drill, would certainly have been out of place in Spain.

It should be emphasized at this point that the relations between the members of the Condor Legion and the Spanish population were extremely cordial from the very beginning. The Spaniards had a certain respect for the German soldier, his military accomplishments, and his personal bearing, and the German volunteers were received with admiration and eager hospitality wherever they went. Wherever their command posts were located, the communities -- in the persons of the leading families -- assumed responsibility for billeting and feeding them. Many a party was given in their honor⁵.

5 - Beust, op. cit., pages 14, 57, 78, 79, 80; also Generalleutnant a.D. Jaencke in his contribution to this study.

IV. The Equipment of the Condor LegionA. Flying Units

At the time of its arrival in Spain, the Condor Legion had the following aircraft at its disposal:

20 Ju-52's as transport and bomber aircraft

14 He-51's as single-engine fighter aircraft

6 He-45's as close-range reconnaissance aircraft

2 naval aircraft (1 He-59 and 1 He-60)

The following aircraft soon arrived for testing and experimental purposes (with civilian crews):

1 He-50 and 2 Hs-123's (dive bomber and close-support aircraft)⁶

Bomber Group (K/88)JU-52⁷

In the beginning, the bomber squadrons were equipped with the Ju-52, which had also been used to transport the Moroccan troops from Africa to Spain (30 to 35 men per aircraft). The Ju-52, which at that time was still the standard aircraft for the majority of the Luftwaffe's bomber units, was the familiar three-engine commercial model used by the German Lufthansa, which had been converted into a bomber by the installation of airborne armaments, bomb-release mechanisms, and aiming equipment.

The flight characteristics of the Ju-52 were excellent. It was easy to operate, stable in flight, robustly constructed, and capable of being flown entirely by instrument.

6 - Information obtained from Generalleutnant a.D. Jaenecke's contribution to the present study.

7 - Beust, op. cit., pages 23-26, 38/39, and Appendix 1; Table of Performance Characteristics of German Military Aircraft, 1 December 1938 (Karlsruhe Document Collection); List of German Combat Aircraft (Karlsruhe Document Collection).

Nevertheless, it was not entirely suited to employment in military operations because it was slow (approximately 150 miles per hour at very low altitude), not very maneuverable, and inadequately armed. The fact that the positions of the pilot and the bombardier were so far apart made exact adherence to the target approach course very difficult. The maximum altitude attainable with a full load of fuel and bombs, 11,480 feet, was inadequate.

Engines: 3 BMW-132 engines, with a rated power of 845 horsepower

Armament: In the beginning, only 2 mobile machine-guns, one in the tail and the other in the gun position under the fuselage (the so-called "pot"); both guns were aimed to shoot towards the rear, and their field of fire was limited. These defensive armaments were improved at troop level later on by the installation of additional machine-guns (up to five in number), including two fixed guns mounted on the wings between the lateral engines and the fuselage.

Bomb-Release and Aiming Devices: The maximum bomb-load consisted of 3,307.5 lbs., stored in bomb-bays and made up of 551.25-lb., 110-25-lb., and 22-lb. bombs and incendiary bombs. But in view of the extensive quantities of fuel needed for relatively long flights and the frequently inadequate airfields (short runways, soft or uneven ground), the bomb-load usually had to be reduced to from 2,205 to 2,646 lbs. The maximum fuel load of 495.2 gallons was enough for a total flight time of approximately five hours. Assuming an average fuel consumption of ninety-nine gallons per hour, this meant a combat speed of approximately 130 miles per hour at an altitude of 9,840 feet. Thus, with a bomb-load of 2,205 lbs., the aircraft had a maximum radius of action of 310.5 miles from its take-off field.

A mechanical bomb-sight, operated by the bombardier in a retractable "pot" under the fuselage, served as the aiming device.

The bombardier could also make minor corrections in course by adjusting an auxiliary side rudder.

Radio Equipment: Radio equipment was limited to the instruments needed for aircraft-based direction finding, which made both navigation and camouflaged radio communication extremely difficult. Instruments for direction finding on board, air-to-air communications, and intercommunications inside the aircraft were completely lacking.

For the conditions prevailing at that time, the Ju-52 was entirely inadequate as a bomber; technically, it was far inferior to the aircraft employed by the Reds in Spain. As a result, very soon it had to be restricted to daytime employment with a fighter escort or to night missions. Nevertheless the Ju-52 continued to be employed in Spain until the end of 1937, by which time the Legion's bomber group had been completely converted to the He-111. The Spanish units continued to fly the Ju-52 until the end of the war.

Despite an authorized equipment strength of twelve aircraft per squadron (thus a total of thirty-six aircraft for all three squadrons), an average of thirty to thirty-five operable Ju-52's was available to the bomber group during the period from the beginning of the undertaking up to the point when the group began the change-over to the newer models.

These figures do not include the three aircraft assigned to the staff squadron.

He-111-B:

The conversion of the bomber group to the He-111 began in April 1937. During the period from April to June of that year, the squadrons had a total of twenty of the new aircraft plus twenty of the older Ju-52's.

By the end of 1937, the bomber group had been completely converted to the He-111.

The He-111 was the most up-to-date bomber which the Luftwaffe had at that

39

26 - a

time. It was a twin-engine machine, with a rated take-off power of 950 horsepower for each of its DB-600-type engines, and fitted with high-altitude superchargers.

Crew: Four men (pilot, bombardier, radioman, tail gunner)

Airborne Armaments: Three mobile machine guns

Radio and Navigational Equipment: Adequate to make the He-111 fully capable of instrument flight.

Operational Ceiling: 4.34 miles

Speed: Ground speed -- maximum 186 mph

-- cruising speed 174 mph

At altitude of 2.5 miles -- maximum 230 mph

-- cruising speed 214 mph

Flight Range: 276 miles at an altitude of 2.5 miles (cruising range)

Bomb-Load: Up to 3,307.5 lbs.

Flying Weight: 22,050 lbs.

Ju-87:

At the beginning of 1937, a few models of the first German dive bomber, the Ju-87, which was to play such a significant role during World War II, were assigned to the Condor Legion for experimental purposes. They were withdrawn quite soon, however, since they turned out to be not yet ready for employment from the standpoint of technological reliability. It was not until 1938 that a flight of Ju-87's was assigned to the Legion once more, for integration into the bomber group. The Ju-87 was also employed experimentally as a close-support aircraft, as was the other dive bomber model, the Hs-123.

Single-Engine Fighter Group (J/88)⁸He-51:

The fighter squadron already in Spain prior to the arrival of the Condor Legion was equipped with aircraft of the He-51 type, and this was also the machine assigned to the Legion's fighter group during the early stages of operations. The He-51 was a biplane with an open cockpit. It carried two rigidly mounted machine guns as armaments, and was equipped with a release mechanism for six 22-lb. fragmentation bombs. It had no radio equipment whatsoever, which meant that communication during formation flight had to be restricted to visual signals.

The Red fighter aircraft in use at that time, the "Rata" and the "Curtiss", were clearly superior to the He-51 in respect to speed, maneuverability, climbing performance, and airborne armaments -- in short in all those qualities which go to make up a good fighter aircraft.

For this reason the German fighters had to avoid aerial combat with the enemy whenever possible. There were occasions, of course, when an encounter with the Ratas or Curtisses could not be sidestepped. The German fighters were hard put to carry out their primary objectives, namely the defense of their own front area, their airfields, etc., let alone the mission of achieving air superiority by effective free aerial combat.

As a result, the He-51's were gradually restricted to direct support of ground operations by means of attack on objectives located in the immediate vicinity of the front, attack on enemy marching columns, and the elimination of enemy

8 - Galland, op. cit., pages 46-48;

Beumelburg, op. cit., page 174;

Beust, op. cit., pages 38/39; and

Table of Performance Characteristics of German Military Aircraft, 1 December 1938 (Karlsruhe Document Collection).

artillery and antiaircraft artillery by means of low-level attacks with airborne armaments and bombs. These were all tasks which the heavy bombers were unable to accomplish with precision and effectiveness. After the introduction of the Me-109, the He-51 was exclusively used for the tasks described above, achieving a large measure of success in this relatively new field of close-support operations.

Towards the end of 1937, the 1st and 4th Squadrons of the fighter group were completely equipped with Me-109's, while the 2d and 3d Squadrons retained the He-51's for special employment in close-support operations. During the summer of 1938, one of the two latter squadrons was also converted to Me-109's, so that a total of three squadrons were equipped with the new model.

Technical Data of the He-51^{8a}

Design: Combined design, biplane, open cockpit, rigid landing gear

Engine: One BMW-VI, 750 horsepower

Crew: One pilot

Airborne Armaments: Two rigidly mounted machine guns

Radio Equipment: None

Bomb-Release Mechanism: For six 22-lb. fragmentation bombs

Performance:

Speed: maximum speed 205 mph

Climbing Ability: from 0 to 3,280 feet in 1.4 minutes

Operational Ceiling: 24,256 feet

Flight Range:

Armor Protection: None

8a - Based on the catalogue of the Heinkel models, 1922-1940 (Heinkeltypen-schau 1922-1940), 1941, Rostock, page 23.

Me-109 (E):

Design: Light-metal low-wing aircraft, with cabin cockpit and retractable landing gear

Crew: One pilot

Engine: One Jumo 210-D

Airborne Armament: Three rigidly mounted machine guns

Radio Equipment: Equipment for both air-to-ground and air-to-air communication

Bomb-Release Mechanism: For five 22-lb. bombs

Performance:

Speed: At altitude of 0 feet -- maximum speed 260 mph

-- cruising speed 236 mph

At altitude of 2.5 miles -- maximum speed 284 mph

-- cruising speed 245 mph

Climbing Performance: From 0 to 2.5 miles in 4.6 minutes

from 0 to 3.10 miles in 6.2 minutes

from 0 to 3.72 miles in 12.0 minutes

Operational Ceiling: 5.71 miles

Flight Duration: 85 minutes at an altitude of 2.5 miles

95 minutes at an altitude of 3.72 miles

Armor Plating: None

Flying Weight: 4,410 lbs.

Me-109-D-(E):

By the autumn of 1938, both the Me squadrons of the fighter group had been equipped with the more up-to-date model, the Me-109-D. As compared with the Me-109-B, the D model could remain in flight longer

(125 minutes as compared with 95 minutes at an altitude of 3.72 miles), which made it possible to provide a longer-range fighter escort for the bombers.

As far as speed and climbing ability were concerned, the performance of the new model was substantially the same as that of the older one. The D model carried four machine guns rather than three.

The Me-109-D remained the standard fighter for the Condor Legion until the end of the Spanish Civil War, and it proved to be very satisfactory in all respects.

Aerial Reconnaissance Squadron (2/58)⁹

Close-Range Reconnaissance Aircraft

He-46:

This aircraft, a few of which were used during the early stages of operations in Spain, was the model with which the close-range reconnaissance units of the German Luftwaffe were still equipped in 1936.

In mass production since 1933, it was clear that the He-46 was technologically out of date by 1936.

Design: Combination design, high-wing monoplane with rigid landing gear which could be replaced by sledge runners

Engine: One Siemens SAM-22-B, an air-cooled nine-cylinder radial engine without high-altitude supercharger; rated power 600 horsepower; non-adjustable propellers

Crew: Pilot and observer, in open cockpits arranged side by side

Airborne Armaments: One rigidly mounted machine gun aimed towards the front and one mobile machine gun aimed towards the rear

9 - Beumelburg, op. cit., pages 35/36, 60, 69, 149, 174;

Beust, op. cit., page 39;

Table of Performance Characteristics of German Military Aircraft, 1 December 1938 (Karlsruhe Document Collection); and

List of German Combat Aircraft (Karlsruhe Document Collection).

Radio Equipment: Long-wave key transmitter (Radio Model II) for two-way communication with the ground; trailing antenna

Photographic Equipment: Automatic aerial camera with focal distances of 200 and 400 mm; hand camera with focal distance of 190 mm

Bomb-Release Mechanism: For ten 22-lb. fragmentation bombs, which could be stored in the fuselage in place of the automatic camera; when the aircraft carried bombs, its radius of action was sharply reduced since the weight of the bombs precluded the carrying of extra fuel; mechanical bomb-sight

Armor Plating: None

The He-46 could not be operated by instrument alone.

Performance:

Speed: At an altitude of .62 miles, maximum speed 155 mph

" " " cruising speed 138 mph

At an altitude of 2.5 miles, maximum speed 151 mph

" " " cruising speed 124 mph

Flight Range: 158 miles

Operational Ceiling: 1,968 feet

Flying Weight: 4,961 lbs.

Twenty-one of these He-46's were turned over to the Spanish Air Force, where they were put to good use until the end of the war.

He-45:

The He-45, which had been introduced in 1933 and which had been the German Luftwaffe's standard close-range reconnaissance aircraft since 1935, had been designed originally as a long-range reconnaissance aircraft which, at the same time, was capable of employment as a light daytime bomber. In 1936, it still met the requirements established for the close-range reconnaissance aircraft employed by the Army.

One flight (three aircraft) of the Condor Legion's aerial reconnaissance

46

squadrons utilized He-45's for close-range reconnaissance operations in Spain until the end of the war.

Design: Combination design, biplane with rigid landing gear

Engine: One BMW-VI/7.3, liquid-cooled engine with twelve cylinders in a V-arrangement, without high-altitude supercharger; rated power 660 horsepower

Crew: Pilot and observer in open cockpits arranged side by side

Airborne Armaments: As in the He-46

Radio Equipment: As in the He-46

Bomb-Release Mechanism: For eighteen 22-lb. bombs, to be stored in the fuselage in place of the automatic aerial camera

Armor Plating: None

The He-45 could not be operated by instrument alone.

Performance:

Speed: At an altitude of 0 miles, maximum speed 170 mph

At an altitude of 2.5 miles, maximum speed 153 mph

" " " cruising speed 130 mph

Flight Range: Approximately 248 miles (at cruising speed)

Operational Ceiling: 18,696 feet

Flying Weight: 6,064 lbs.

Long-Range Reconnaissance Aircraft

He-70:

The He-70 was used by the Condor Legion as a long-range reconnaissance aircraft prior to the introduction of the Do-17. In the German Luftwaffe itself there was a flight of He-70's assigned to each long-range reconnaissance squadron

scheduled for reconnaissance operations for the Army; this was the case until 1937.

The single-engine He-70, also called the "Blitz" (lightning flash), had become famous as the Lufthansa's express mail airplane even before it was converted to a long-range reconnaissance aircraft by the installation of airborne armaments and other military equipment. The Blitz had created quite a sensation among experts because of its speed, which was based not upon the power of its engines but upon its particularly effective aerodynamic design. Nevertheless, despite the fact that it represented an advance over the He-45 (particularly as regarded speed), it proved to be not entirely suitable for use as a military aircraft, chiefly because of its low operational ceiling, inadequate defensive armaments, and the limited field of vision which could be covered by the observer. In comparison with the commercial Blitz, the military He-70 flew almost 18.5 miles per hour slower, as a result of the extra weight occasioned by the airborne weapons and the camouflage painting.

Design: Combination design; a low-wing aircraft with cabin cockpit and retractable landing gear

Engine: BMW-VI, twelve-cylinders arranged in a V-form, glycol-cooled, sustained performance 660 horsepower at 0 altitude; no high-altitude super-charger

Crew: Pilot, observer, and radioman

Airborne Armament: One mobile machine gun aimed towards the rear and upwards; one mobile machine gun aimed towards the rear and downwards

Radio Equipment: Radio Model VIII for air-to-ground telegraphy; EZ-5 for direction finding based on audible signals

Photographic Equipment: As in the He-45

Bomb-Release Mechanism: None

Performance:

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48

Speed: At 0 altitude, approximately 199 mph

Flight Range: Approximately 310 miles

Operational Ceiling: 18,040 feet

The He-70 was the first German reconnaissance aircraft capable of being flown entirely by instrument.

Armor Plating: None

Do-17-P

Originally developed as a twin-engine fighter and light bomber, the Do-17-P was used by the Luftwaffe from 1937 on as a long-range reconnaissance aircraft for employment in Army-connected operations.

Ever since the equipment conversion of late 1937, the aerial reconnaissance squadrons of the Condor Legion had been utilizing Do-17-P's, not only for long-range reconnaissance but also for bombardment missions. The reconnaissance squadron had a total of four flights of Do-17-P's, one of which was assigned to long-range reconnaissance and the other three to employment as light bombers.

Design: All-metal high-wing aircraft, with cabin cockpit and retractable landing gear

Engines: two BMW-132-N engines (9-cylinder radial engines, air-cooled, with supercharger); adjustable propeller; rated power 845 HP.

Crew: Three men (pilot, observer, radioman)

Airborne Armaments: One mobile machine-gun in the nose (trained to the front)

One mobile machine-gun in the tail (trained to the rear)

One mobile machine-gun in the tail (trained to the rear and downwards)

Radio Equipment: Radio Model III for air-to-ground radio telegraphy; direction finding device (Model V) for direction finding on board on the basis of optical and audible signals; intercommunication equipment for the crew

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Photographic Equipment: Automatic aerial camera for 210 and 500 mm
focal distance; hand camera

Bomb Release Mechanism: For four 110-lb ETC bombs

Flying Weight: 15,739 lbs (as a reconnaissance aircraft)

The Do-17-P was fully capable of being operated exclusively by instru-
ment.

Armor Plating: None

Performance:

Speed: At an altitude of 0 miles, maximum speed 217.3 mph

" " " " cruising speed 192.5 mph

At an altitude of 2.5 miles, maximum speed 236 mph

At an altitude of 3 miles, cruising speed 217.3 mph

Flight Range: 434.7 miles

Operational Ceiling: 22,960 feet

Naval Air Squadron (AS/88)¹⁰

The Naval Air Squadron was responsible not only for carrying out reconnaissance missions against ocean traffic and seaports but also for bombarding these targets. The squadron was also employed for the bombardment of land targets located along the coast, in joint operations with the land forces. Its aircraft, weapons, and other equipment had been selected in keeping with these missions.

He-59:

The He-59 was a multi-purpose (naval reconnaissance, bomber, mine and torpedo carrier, and smoke-screen generating aircraft) aircraft equipped with floats.

In the beginning, the naval air squadron had two of these aircraft at its disposal; by July 1937, it had seven. During the course of the war, the number varied, but was never substantially higher than seven.

10 - Evaluation of the "Air Exercise on Rügen" of the Naval Air Squadron, Condor Legion (Karlsruhe Document Collection).

Table of Performance Characteristics of German Military Aircraft, 1 December 1938 (Karlsruhe Document Collection).

List of German Combat Aircraft (Karlsruhe Document Collection).

The He-59 was a twin-engine float seaplane, which -- because of its relatively low speed -- could be employed against protected targets only in nighttime missions.

Design: Combined design

Crew: Three men

Engines: Two BMW-VI-6.0 engines, rated power 690 HP each

Armament: Three mobile machine-guns, supplemented on an experimental basis by one 20 mm cannon

Bomb Load: Total of 2,205 lbs (110-lb, 505-lb, 1,100-lb), or one 2,866-lb torpedo, or mines with depth adjustment, or three smoke generators

Performance:

Speed: At 0 altitude, maximum speed 136.6 mph

" " " cruising speed 125.4 mph

At an altitude of 1.2 miles, maximum speed 131.6 mph

" " " " " cruising speed 121 mph

Operational Ceiling: 2.42 miles

Flight Range at 0 Altitude: as bomber: 301 miles

as torpedo carrier: 273 miles

as smoke generating aircraft: 301 miles

Flying Weight: 19,804 lbs (maximum)

He-60-D:

This was a single-engine coastal and ship-based reconnaissance aircraft, equipped with floats. The Naval Air Squadron had only a few He-60-D's at its disposal.

Design: Combined design, capable of being launched by catapult

Crew: Two men

Engine: BMW-VI-6.0-ZU, rated power 660 HP

Airborne Armament: Two machine-guns

Photographic Equipment: Aerial cameras or, installed in place of these,
one smoke generator

Performance:

Speed: At 0 altitude, maximum speed 150 mph

" " cruising speed 128.5 mph

At an altitude of 2.5 miles, maximum speed 140 mph

Operational Ceiling: 2.98 miles

Flight Range: 298 miles (maximum)

Flying Weight: 7,938 lbs

B. Antiaircraft Artillery Forces¹¹

The heavy antiaircraft artillery battery which formed the basic artillery unit in Spain was equipped with four 88 mm antiaircraft artillery cannon.

This cannon, whose development goes all the way back to World War I, was employed in the beginning exclusively in accordance with its original purpose, i.e. for defense against enemy attack from the air. The fact that the Red air units, after losing sixty-one aircraft to the German antiaircraft artillery battery, began to avoid the battery positions entirely, coupled

11 - Horst Adalbert Koch, op. cit., pages 20, 106/107, 109, 112/113, 118, 120/121, 123/124.

Air War Academy Manual (*Leitfaden der Luftkriegsschulen*), "Einsatz der Deutschen Luftwaffe während des spanischen Bürgerkrieges" (Employment of the German Luftwaffe during the Spanish Civil War), pages 178/179 (Karlsruhe Document Collection).

Volkmann, "Kurzer Erfahrungsbericht über den Einsatz der Legion Condor in der Zeit vom 1.11.37-31.10.38" (Brief Report of Experience Gained during the Employment of the Condor Legion from 1 November 1937 to 31 October 1938), pages 11 and 12 (Karlsruhe Document Collection).

with the lack of artillery equipment prevailing in the Spanish forces brought the employment of the German antiaircraft artillery cannon against ground targets more and more into the foreground. Thus the operations in Spain proved for the first time that the German antiaircraft artillery cannon were capable of being used for a number of different purposes.

The 88 mm cannon, with its high firing speed, the devastating effectiveness of its explosive shells and armor-piercing grenades, and its firing range of up to eight miles, was a weapon capable of deciding the outcome of an entire battle.

Ammunition: Cartridge grenades with time fuse for employment against air targets and with percussion fuse for use against ground targets; armor-piercing grenades with tracer ammunition.

In the case of employment against air targets, the computation and direction of fire for the entire battery was handled by the antiaircraft artillery fire control set, which provided constant firing data for each individual cannon in terms of distance, direction, and altitude (after making allowance for applicable weather factors and the loading lag), and which took care of adjusting the automatic fuse setter.

The range computer used by the heavy antiaircraft artillery battery was an optical device on the 4 m basis (stereo-photogrammetry).

The light antiaircraft artillery units, one of which was assigned to each heavy battery with the task of combatting enemy low-flying aircraft, consisted of three light (20 mm) antiaircraft artillery cannon each.

The 88 mm cannon were transported in two loads by means of special rubber-tired divided trailers drawn by tractors. Immediate firing readiness was guaranteed at all times.

The battery was augmented by an ammunition squadron, a signal communications squadron, and a combat supply group.

39 - a

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The searchlights used by the heavy battery for target illumination at night had a diameter of 4.9 feet. The arc-lamp produced an illuminating power equivalent to 1.1 billion Hefner candles. When weather conditions were favorable, this meant that a target could be illuminated at a distance of 26,404 feet and at an altitude of 13,120 to 16,400 feet. A 24-kw generator, driven by a gasoline motor, provided the power needed to run the searchlights.

Light Antiaircraft Artillery Battery

The light antiaircraft artillery battery was made up of four platoons of three 20 mm cannon each, plus a searchlight platoon.

The 20 mm cannon was a recoil-operated gun, with both semi-automatic and fully automatic firing mechanisms which could be adjusted for salvos or continuous fire.

The ammunition was fed from magazines containing twenty rounds each. It consisted of explosive grenades with percussion fuse and tracer ammunition, armor-piercing grenades, or armor-piercing explosive grenades. The weight of the projectiles was between 3.6 and 5 oz.

The triangular gun mounts were equipped with levelling devices at each corner in order to compensate for any unevenness in the terrain, and permitted all-round traverse. The gunner's seat moved with the gun, and the gunner could open either salvo or continuous fire simply by activating the proper switch with his foot.

The cannon were transported by means of a special two-wheel trailer, from which the gun could be dismounted and set up on the ground ready for action within a matter of seconds.

The searchlight platoon was equipped with four searchlights, each having a diameter of 23 inches; the lights could be adjusted manually. The carbon arc-lamps provided an illuminating power equivalent to 150 million Hefner candles. Targets at an altitude of 5,248 feet and at a distance of approximately 10,170 feet could be illuminated.

The 37 mm platoon was equipped with three cannon. This type of gun was semi-automatic in operation. In the beginning it was used with an outrigger-type mount like the one used with the 88 mm cannon, and later on triangular mounts similar to those used with the 20 mm guns were introduced.

The 37 mm cannon were transported in the same way as the 20 mm guns.

appeared to be most dangerous in his particular area of operations at any given moment. As soon as the target came into effective range, it was then hit by the concentrated fire of the entire section. The platoon leader could concentrate the entire fire power of his platoon on a certain target, either by giving verbal orders or by using pre-arranged signals. The actual firing of the gun was the individual responsibility of each gunner.

Thus each gun within the light antiaircraft artillery units was provided with its own control and sight equipment.

The light antiaircraft artillery units were also used frequently and successfully in ground operations during the Spanish Civil War. Their position during operations of this kind was usually right behind the forward infantry.

40 - a

57

Ammunition: Highly sensitive ~~xxx~~ contact fuse, with tracer ammunition,
Incendiary grenades with and without tracer ammunition,
Armor-piercing grenades.

The light antiaircraft artillery units did not have a central fire control set to direct the fire of an entire battery or platoon. Each section chief independently had his gunners track whatever target

C. Motor Vehicles ^{11a}

The Condor Legion was equipped with approximately 100 different types of motor vehicles. And sometimes, even within the same type, there were as many differences in spare parts as there were different models and series. This led to difficulties and delays in keeping the Legion supplied with the spare parts it needed and sometimes made it impossible to carry out necessary repairs.

11a - See pages 49/50 for further details in this connection.

V. The Command Structure and Chain of Command of the Condor Legion¹²

The command structure of the Condor Legion was problematic and, at the same time, unique in that its commander remained subordinate to the Commander in Chief of the German Luftwaffe, from whom he received all orders, instructions, and directives. Nevertheless, the commander of the Legion, who had the authority of a commanding general, enjoyed a relatively high degree of freedom of action.

There was no official contact between German and Spanish command agencies, which meant that it was left up to the officers and troops to find the ways and means of ensuring effective and successful cooperation in each individual instance of joint action.

It is obvious that under these circumstances difficulties and instances of friction were bound to occur, especially among the higher-level command agencies. In the first place, the directives coming from Germany did not -- in fact, could not -- always give due consideration to the situation of the moment, and in the second place the German officers were frequently confronted by a lack of understanding or by pure and simple stubbornness on the part of their Nationalist Spanish comrades, all of which was hardly conducive to reconciling the views and coordinating the operational plans of the two forces. Finding a common meeting-ground and smoothing over apparently irreconcilable differences of opinion was surely one of the most demanding tasks of the leaders of the Condor Legion, a task which could be accomplished only with the aid of a large measure of tact and diplomacy. The fact that in spite of these obstacles the various commanders of the Legion managed to prevail in their views regarding the military situation and its operational implications not only for the Legion but also for the Spanish ground forces, speaks for the military competence and experience of the Legion commanders.

43 - a

and their chiefs of staff as well as for the respect which Franco and his
generals felt for them.

12 - Beust, op. cit., pages 75 - 77.

To begin with, the Condor Legion proceeded in accordance with the principles of command and employment valid at that time within the German Luftwaffe, with, of course, certain modifications needed to cope with the specific situation at hand. At the same time, however, the Legion was constantly gaining further experience, some of which affected basic principles of command and employment; those modifications deemed desirable in the light of experience were put into effect without delay and without any difficulty on the technical or tactical sectors. The fact that such changes could be effected so smoothly is certainly to the credit of the Legion's commanders, and it was surely one of the determining factors for the success achieved by the Legion as well as for the relatively low losses suffered by it.

The developments and modifications experienced by the Condor Legion during its two and one-half year assignment in Spain were many. Progressing from the first stage of initial difficulties and stop-gap solutions, as time went on all the requirements implicit in continuous development in the fields of tactics, organization, and technology were recognized and provided for.

After 1937, the peculiarities characteristic of the early stages of a civil war gradually gave way to the operations of a "normal" war. To be sure, this "normal" war was restricted to a relatively limited territory; it never reached the geographical extent or the military scope of the two World Wars and thus must be evaluated according to different criteria in many respects.

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It lay in the nature of the Spanish Civil War that the main emphasis was placed on the ground operations of the Army, on its local victories, and on its territorial gains. Thus it was first of all the principles governing the cooperation between the army and the air forces which were put into effect and subjected to further development. The valuable experience gained in this particular field will be discussed in detail in Chapter IV.

The concept of strategic air missions was relegated more and more to the

44 - a

63

background, and it is definitely open to question whether this development was ~~xxi~~ really an advantage for the outcome of the Civil War in the long run. Today, of course, we are no longer in a position to provide a definitive answer to the question of whether the end of the war might not have been hastened materially by means of a systematic air campaign against strategic targets in the enemy hinterland, especially supply centers, seaports, and supply routes.

It is, of course, undeniable that the tactical employment of air units at the focal point of the ground fighting was extremely important, and sometimes even vitally necessary.

The first commander of the Condor Legion was Generalmajor Sperrle (from Nov. 1936 until 31 Oct. 1937); his first chief of staff (until January 1937) was Lieutenant Colonel (GSC) Holle, who was replaced in January 1937 by Lieutenant Colonel (GSC) Freiherr von Richthofen (Diplom-Ingenieur).

Generalmajor Sperrle's successor was Generalmajor Volkmann, who assumed command in November 1937 and remain^{ed} until November 1938. Lieutenant Colonel (GSC) Plocher served as Generalmajor Volkmann's chief of staff.

The last commander, whose appointment continued until the end of the Civil War, was Generalmajor Freiherr von Richthofen, Sperrle's former chief of staff. Chief of staff during this period was Lieutenant Colonel (GSC) Seidemann.

VI. The Supply System and the Rear-Area Communications System of the Condor Legion

As is the case with any expeditionary corps, the problem of supply was of paramount importance for the Condor Legion. The main difficulties which it ~~faced~~ in this connection were the following:

1. Practically all replacement shipments, whether of personnel or materiel, had to come all the way from Germany, which meant that they had to cover a distance of over 1,200 miles. Most of the Legion's requirements in foodstuffs, as well as a few other supply items, could be met in Spain; everything else -- aircraft, engines and spare parts, weapons and ammunition, almost all aircraft and vehicle fuels and lubricants, and all other equipment -- had to be brought from Germany.

2. Supply shipments from Germany had to be sent exclusively by water.

Cross-country transport was out of the question, since it would have meant travelling over French territory.

Air transport was reserved for a small number of personnel, for courier and liaison services, and for the delivery of multi-engine aircraft.

3. The accomplishment of the necessary sea transports was complicated by a number of political and military factors. In the first place, all transports of war materiel had to be carefully camouflaged, and their purpose and destination kept secret at all costs. There was always the danger of inspections in transit, which resulted in confiscation of the shipment or even in the sinking of the vessels involved by the Red naval forces. Once the Bay of Biscay was in Nationalist hands, of course, this last danger was practically eliminated.

Even so, the German Navy was called upon to play an important role in providing escort services.

4. The transport of supplies from the seaports where they were unloaded to their final destination in the interior of the country was dependent upon the highway network, which -- in comparison with other countries -- left much to be desired in terms of density and road conditions and which, in addition, was constantly congested. The situation was made even more difficult by the shortage of transport space, since the number of German vehicles assigned to the Legion was inadequate and the available Spanish trucks few in number, obsolete, and in poor operating condition.

Rail transport facilities were very poor. There were very few freight cars available, and the Spanish railway network (sparsely laid out and poorly maintained in any case) was in a state of complete neglect as a result of the war¹³.

13 - Beust, op. cit., pages 82 and 83.

After the first transport of the Condor Legion itself from Stettin and Swinemünde to Cadiz, this particular route was no longer used. Instead the Special Staff W worked with a shipping agency in Hamburg, which had three or four of its own ships constantly at the disposal of the Staff. These ships took care of the routine shipments of weapons, ammunition, and equipment and also carried out the transport of experienced replacement personnel for Spain. The latter transports were handled as follows: The officers and enlisted men scheduled for replacement duty in Spain were brought together in a Luftwaffe camp inconspicuously located on the Havel near Gatow, in the vicinity of Berlin, where they were issued civilian clothing and oriented for their coming assignment. Transports of this kind usually included between 500 and 600 men. During the night, the group was loaded into buses and arrived in Hamburg before daybreak. Here they were loaded into launches and taken to a part of the harbor which was no longer in use, where they boarded a steamer which had already been loaded with its cargo of weapons, ammunition, etc. All the cabins were below deck and the hatchways were carefully concealed, so that there was nothing to detract from the picture of a perfectly harmless and innocent steamship.

The passengers immediately disappeared below deck, and the steamer got under way. During the entire voyage no one was allowed on deck as long as there was even a remote chance that a passing vessel might come close enough to get a good look.

It is important to note that these steamers sailed under the flag of Panama. Panama was one of the few nations which had not joined the embargo agreement concluded in London and was now engaged in the profitable business of charging a monthly fee in dollars to permit the ships of other countries to fly the Panamanian flag. In this way the German steamers avoided the danger of being boarded and inspected by an embargo officer during the trip to Spain.

As a further camouflage measure, after passing through the Straits of Dover the ship changed its appearance to avoid recognition. The name was changed,

47 - a

(67)

a second ring was painted around the smokestack, a dummy smokestack was added,
or the entire ship repainted.

Later on, in order to check on its security procedures, the Special Staff W requested a German legation secretary employed in the office of the Embargo Commission to try to find out whether London knew anything about the German transports. But the entries in the Commission's lists indicated only that the Panamanian steamer "Golfo de Darien", for example, had passed through the Straits of Dover, with a remark in the last column to the effect that "its present whereabouts" were "unknown".

As the German steamer approached the Spanish coast, it was picked up by one of Franco's escort cruisers. Under cover of darkness, the steamer docked in the harbor of El Ferrol. At the end of this bay, quite well hidden by the contours of the terrain, lay the arsenal. Nearby a troop train waited, ready to bring the German group directly to Leon, where they were issued uniforms and processed for assignment to the appropriate units of the Condor Legion.

Leon, with its huge airfield, its spacious assembly hangars, its barracks, and its rail connections, was selected as the center of supply and equipment conversion activity. Only for less important deliveries were the depots at Seville, Salamanca, and Mallorca utilized. German hopes that the Legion might be able to utilize the harbors of Bilbao and Santander (along the eastern part of the northern coast) could not be realized, since both harbors were needed to handle the increasing volume of ore transports to Spain. The main reason, however, was the fact that it was only the centrally located airfield at Leon which provided the necessary facilities and equipment.

Vigo (located on the northwestern coast) gradually began to replace El Ferrol as the unloading port for the German transports. A railway line connected Vigo with Leon.

The German ocean transports invariably went smoothly. One of the ships belonging to the Hamburg agency was the steamship "Protos", previously assigned to the Baltic Sea route. The Protos had been used to transport locomotives, and for this reason had especially large loading hatches. This made it parti-

48 - a

69

cularly suitable for the transport of the characteristically long and unwieldy boxes containing aircraft sections. Otherwise, these would have had to be loaded on deck -- fully visible to all.

Every Wednesday, two courier Ju-52's took off from Berlin and two from Seville in order to take care of any emergency transports and to carry official mail, as well as personal mail and, sometimes, flying personnel. During the first day, the aircraft taking off from Berlin-Tempelhof flew as far as Chambino Nord, near Rome. Here the crews spent the night, always at the same hotel, the Massimo Deseglio near the Terme's railway station. On the following day, the flight continued over Ostia and Sardinia to a point off the coast of Malaga. From this point, if the weather was good, the route over the mountains to Seville was used; in case of bad weather, the aircraft flew along the Mediterranean, around Gibraltar, and then followed the course of the Guadalquivir River north to Seville. The duration of the flight was approximately eleven or twelve hours, and the aircraft were equipped with auxiliary fuel tanks to keep them airborne that long.

On the third day, the aircraft took off from Seville for the headquarters of the Condor Legion, wherever it might be at the time.

Later on, this route was shortened so that the flight could be accomplished in one day. The new route went from Berlin, via Milan and St. Bonet (on the island of Mallorca), directly to the Spanish mainland.

Studying these conditions in retrospect, we must bear in mind that Germany, in spite of all her bustling activity during these years, was carrying on a poor man's war which required constant improvisation. Never was she in a position to draw on unlimited resources; she was always forced to make do with stop-gap measures.

The main resource which Germany had at her disposal was the eagerness and courage of her soldiers, and it must be admitted that she used these to best advantage.

The following is included as an example of the Germany's straitened circumstances as far as supply was concerned:

49 - a

71

After the Condor Legion had been transported to Spain, it was discovered that the units, totalling some 6,000 men, were supplied with 114 different types of motor vehicles, and that the spare parts for all these vehicles would have to be supplies from Germany, over a tremendous distance. In comparison with the Italians, for example, whose motorized units -- in exemplary fashion -- contained only a very few different types of vehicles, the Germans found the problem of spare parts to be a source of endless work, material, and expense. It soon turned out that there was no other way to solve the problem than to set up a railway train

as a spare parts depot. By the end of the war, spare parts in the value of approximately six million gold marks had been assembled in this train, neatly arranged on built-in shelves and classified according to type and model. When the Spanish Civil War came to an end, the train was smuggled through to Germany under cover of darkness, in spite of promises given to the effect that this would not be done. Its contents were simply so valuable that Germany could not afford to lose them. Later on, as a part of the war materiel captured in France, we acquired a huge and perfectly equipped spare parts depot which the British had established before the war on the coast of France. This was an example of excellent and far-seeing planning on the part of the British. But England was rich and Germany was poor.

In the light of the experience they had gained in Spain, the German soldiers protested violently against this unrealistic production policy. The Führer's special representative for motor vehicle matters (*Bevollmächtigter für das Kraftfahrwesen*), General von Schell, was ordered to do something about the situation and was allegedly given full authority in this connection. In the long run, however, his efforts in this direction were frustrated by Hitler himself and by Party pressure groups¹⁴.

14 - Based on information furnished by Generaloberst a.D. Jaenecke.

Chapter III

The Part Played by the Condor Legion in the Overthrow of Com-

munist Hegemony in Spain¹⁵

I. The First German Volunteer's In Spain

At 0850 hours, on the morning of 27 July 1936, the first Ju-52, flown by Lufthansa Captain Henke, took off from Tempelhof Airfield in Berlin. The following day, after an intermediate landing in Stuttgart, Captain Henke landed at Tetuan and lost no time in beginning with the transport of the Moroccan troops. On the same day, he landed in Seville with a load of twenty-two Moroccan soldiers, who had survived their first airplane ride with equanimity. During its next transport flight, the Ju-52 carried more than thirty passengers. In this way it flew back and forth from Morocco to the Spanish mainland, sometimes as often as four times a day, paying little attention to the Red warships stationed in the Straits of Gibraltar, which soon began to observe and shoot at this strange bird which flew back and forth so regularly. A short time later, the rest of the German transport aircraft began to arrive. The transport aircraft in Spain were under the command of 1st Lieutenant Freiherr Rudolf von Moreau, who did so much to further the Spanish Nationalist cause during his assignment with the Legion, which lasted from July 1936 until the summer of the following year. Moreau was an exemplary officer and a fine person, a classic example for all his younger comrades and a worthy successor to his many great forerunners from World War I until his death in the service of his country.

15 - Sections I through XI of Chapter III were written by Generaloberst a.D. Jaenecke. They are based on his own personal recollections as chief of the Special Staff W(ilberg), which was in charge of the activation of the Condor Legion in Germany, its transport to Spain, and its supply in Spain, as well as on his many inspection visits to the scene of action in Spain. In preparing his account, Generaloberst Jaenecke utilized two sources in

51 - a

74

Footnote 15 (cont)

particular: Werner Beumelburg, The Struggle for Spain, and the material prepared by Colonel a.D. Freiherr von Beust in connection with the present study.

On 31 July 1936, General der Flieger Milch, State Secretary in the Reichs Ministry of Aviation (Reichsluftfahrtministerium), held a speech in Döberitz in honor of the departure of the Union Travel Society, which we have already mentioned. At the order of the Führer, Milch proclaimed, German aid would be rendered to the cause of Nationalist Spain. He called upon the volunteers who had reported for duty to carry out the transport of Franco's troops to the Spanish mainland and to protect such transports under any and all circumstances. He pointed out that the volunteers were not to engage in hostile acts, and that the fighter pilots were expressly forbidden to attack except in self-defense. In the latter case, as Milch put it, the Commander in Chief of the Luftwaffe expected each pilot to do everything in his power to protect the transport aircraft in his charge; this included -- if necessary -- shooting down the enemy attacker. General Milch also conveyed to the Volunteers the assurance of the Commander in Chief, Luftwaffe, that he would not, under any circumstances, leave them holding the bag in Spain, no matter how the situation might develop.

The eyes of the volunteers sparkled. They were filled with strange emotions as they travelled through Berlin by bus in the afternoon, dressed in their new civilian clothing, to the Lehrter Railway Station, where they were assembled at a train bearing the sign "Union Travel Society". Their friendly leader, Major von Scheele, who had won his spurs in a number of foreign wars, escorted them to the steamship "Usaramo" in Hamburg. The ship was already heavily laden with aircraft, bombs, antiaircraft artillery cannon, and miscellaneous equipment.

By 5 August, the steamship had reached a point off the southern coast of Spain. Here the commander of a German torpedo boat stopped them and came on board to discuss the methods to be used in breaking through the sea blockade set up by the Reds. Under cover of darkness, the ship, its lights dimmed, entered the harbor of Cadiz. Fortunately recognizing its target too late, a

52 - a

76

Red ironclad vessel fired a few grenades into the harbor, where the crew was already busily unloading the cargo. A special train was waiting to carry the troops and supplies to Seville. The fighter crews and the antiaircraft artillery units set up an assembly center and began to put their aircraft and cannon together. Moreau and his staff took over the Ju-52's, which had been ferried to Spain in the meantime, and prepared to get to work.

53 - a

78

carried out without enemy interference, and ocean transports could be increased in number. This, in turn, helped to speed up the vital transfer of the Spanish colonial troops and their equipment from Morocco to Seville.

Captain

In the meantime, Lufthansa Henke and his crew had been extremely busy.

Their record was 241 Moroccan troops transported from Tetuan to Seville in one day. By the time the transport action came to an end, a total of 14,000 troops and a good many weapon and ammunition cargos had been brought to Spain.

From the point of view of both strategy and tactics, it is interesting to note that this air transport action was the first of its kind in military history and that, politically speaking, it was of tremendously vital significance. In any case, it provided General Franco with the manpower which he needed to take up the fight which was to lead to the liberation of his nation.

The air transport actions from Tetuan to the Spanish mainland were followed by ocean transports, as soon as the German fighter units had taught the Red warships to be a bit more wary in their attacks.

But things did not always go so smoothly as in the beginning. In August the first volunteers lost their lives, when a Ju-52 crashed soon after its take-off from Jerez de la Frontera. The shortage of aircraft fuel presented a serious problem. Operating from Tetuan, Spanish water wagons were driven to Tangiers (French), where they were loaded with benzol purchased from a Portuguese firm; this helped somewhat at least, until arrangements could be made to ship fuel directly from Spain.

On one occasion, the Red armored cruiser "Jaime I" developed into rather a nuisance. Its antiaircraft artillery was disrupting the transports by forcing the Ju-52's to fly at such a high altitude that they were unable to carry as much cargo as usual. Resolved to eliminate the problem, Moreau and Lieutenant Graf Hoyos loaded their transport aircraft with a dozen 550-lb bombs and, at the break of dawn, flew off towards Malaga. This was the first German bombardment mission of the war, and it was completely successful. The Jaime I received two direct hits from an altitude of 1,640 feet and disappeared from the Straits of Gibraltar. After this incident, the German air transports were

The Special Staff W (Camouflage Designation for the OfficeHeaded By General der Flieger Wilberg)

From September 1936 until the end of November 1938, Colonel (GSC, Army) Jaenecke was chief of staff of the Special Staff W. In this capacity, he was intimately acquainted with the details pertaining to the employment of the Condor Legion and other German volunteer groups in Spain. As what we may term an impartial observer of these happenings, especially insofar as they concerned the part played by the flying units, Colonel Jaenecke holds the following views:

In the literature published so far there are a number of decisive factors, some of them of vital psychological significance, which have been dealt with far too superficially.

When Hitler decided that Germany should participate in the Spanish Civil War, he was motivated not only by the wish to avoid a Bolshevik victory at all costs, but also by the desire to ensure the success of a National Socialist Germany. The Spanish Civil War was to provide the background against which troops were to be trained for Germany's coming struggle for supremacy in Europe, a struggle which -- presumably -- he was already planning at that time.

There can be no doubt today that Hitler was chiefly responsible for everything which happened then and later in Germany. Nevertheless, whether this is the case in connection with the employment of the Condor Legion and the build-up of the German Luftwaffe, must remain open to question.

In the year 1936, the German Luftwaffe had at its disposal a large number of outstanding officers, who, unfortunately, had no chance to put their capabilities to the test. This might be termed almost a tragedy, from the point of view of the officers concerned. Two of them deserve particular mention. The first of these was General Wever, chief of the general staff of the newly organized Luftwaffe. Coming from the General Staff of the Army, Wever met his death in an air crash on 3 June 1936, right at the beginning of what promised

88

54 - a

to be a fruitful career dedicated to the establishment of a new German air
arm. A man of quicksilver intelligence

and imperturbable logic, he would certainly have been able to find a solution to the many unsolved problems of Luftwaffe organization and employment, and we may be sure that he would have solved these problems so efficiently that the later friction between the Luftwaffe and the Army and the Luftwaffe and the Navy would never have occurred.

The second of these outstanding officers was General der Flieger Wilberg, who had served as a pilot during World War I. His knowledge and ability in the field of aviation were outstanding; he was far-sighted and energetic -- in short, an ideal commander in chief for the new German Luftwaffe. But circumstances decreed that Goering, the fair-haired boy of the Party and of Hitler, should be given preference over him -- in complete disregard of his proven ability. Moreover, Wilberg was half Jewish, although one would never have known, to look at him. He even possessed a certificate signed by Hitler to the effect that he and his descendants were exempt from the Anti-Semitic laws; the fact remains, however, that Hitler never received him socially. Wilberg was killed in an air crash which took place after Mölders' funeral; this was after he had been relegated to the background, as far as his career was concerned.

The first German fliers to make names for themselves in Spain were Captain von Moreau and Flight Captain Henke. It was they who defied heavy enemy defensive fire to drop down over the 200-foot long courtyard of the Alcazar in Toledo in order to deliver badly needed supply cannisters. Their action provided the heroic garrison under Colonel Moscardo with the necessary morale boost to encourage it to keep on defending its almost hopeless position until it could be relieved by General Franco and his Moros. Both these outstanding fliers were killed in action soon afterwards.

Among the German pilots in Spain was an extremely capable squadron leader by the name of 1st Lieutenant Eberhard. On one occasion, after Eberhard had already brought down a record number of enemy aircraft (at a time when such feats really counted for something), a group of international journalists sit-

82

55 - a

ting on the terrace of a cafe along the Manzanares heard the unmistakable sounds of aerial combat over Madrid. They saw two aircraft go down in flames, but could make out only one parachute, which was hovering over the Red-held suburbs of

Madrid. A few days later we found out what had happened. Eberhard had died from a heart-wound received in combat and had crashed with his aircraft. His opponent was one of the most famous Russian pilots in Spain, and it was he who had bailed out of his aircraft and landed safely in the city of Madrid. Since he could not speak any Spanish, however, he was taken for a German by the Red mob and beaten to death. This incident had unsuspected consequences. The Russians were furious and issued orders that in future all stranded pilots were to be treated gently and turned over to the nearest military headquarters without delay. This order also saved the lives of countless German pilots later on, for it was often possible to exchange them for prisoners from the other side during lulls in the operations.

In order to speed up the flow of front-trained pilots to Germany, where they were needed as instructors in the flight schools, it had been made a standing rule in the German Luftwaffe that each fighter pilot was to be relieved of duty after having brought down five enemy aircraft. Captain Mölders, justly famed for his insatiable appetite for aerial combat, managed to keep his score a secret until it was finally discovered, quite by accident, that he had downed fifteen enemy aircraft.

Another interesting case concerns a certain 1st Lieutenant Kalderak, who normally carried out up to twelve bombardment and airborne fire attacks on the Red trenches a day in his open reconnaissance machine, an He-46. During his spare time, Kalderak practised with an He-51 and managed to train himself as a fighter pilot. One day, during a fighter scramble at his airfield, one of the He-51's was left over. Acting on his own initiative, Kalderak took off in it after the others and was actually fortunate enough to shoot down three French Breguet bombers in only one minute. Since he had no fighter pilot's license, there was a tremendous uproar when the Reichs Ministry of Aviation tried to contest his right to this victory -- a passion for flying versus bureaucracy! Soon after this incident Kalderak, too, was killed in action.

It should be mentioned here briefly that from the very beginning of the Spanish Civil War the utilization of antiaircraft artillery in operations against ground targets played a significant role and gave rise to a good deal of discussion. The factors which motivated the employment of antiaircraft artillery in actions of this kind were the following: What Spanish artillery was available was completely out of date and utterly inadequate to the demands of German modern combat. The Commander in Chief, Army, and the Chief of the Army General Staff, on the other hand, were both of the opinion that Germany was just beginning to rearm and was still so weak that it needed every single artillery piece, mine thrower, and machine-gun, as well as every single round of ammunition, for its own forces. Accordingly, in their opinion it was completely irresponsible to intervene in a foreign war. For these reasons, whenever they could, both refused categorically to release weapons or ammunition for the Spanish venture. It was not until years later that ~~they~~ they were persuaded to send two howitzer batteries (one heavy and one light) to Franco, and even then they did so only because they had been told that Franco might possibly return the favor at some later date.

At that time Hitler's position was not yet so secure that he could impose his will on such strong and such well-known personalities as these.

Later on, when this situation had changed, Hitler saw to it that Generaloberst von Fritsch and Generaloberst Beck were removed from office. It is quite possible that their lack of cooperation in the Spanish affair may have contributed to their ultimate removal.

It is important that we be acquainted with this background if we are not to draw erroneous conclusions from the experience gained during the Spanish Civil War. If the entire German Wehrmacht had supported the venture wholeheartedly, the results would have been quite different. As it was, however, the Luftwaffe alone participated in the war in Spain, while the Army and the Navy cooperated only when they could not afford not to. This statement may be countered by the argument that the Army, after all, contributed two armored companies and one intercept company. On the other hand it is clear that this was done for purely egotistical reasons, namely in order that the companies involved might gain a bit of experience. Incidentally, we might point out that, when the German tanks were first used in Spain, their armor plating was completely shattered by a direct hit from enemy artillery. Owing to her long inactivity in the field of armaments production, Germany had missed out on all the intervening developments pertaining to the hardening of armor plating. And, as Fate would have it, when Germany sent her foremost armaments expert to Spain to investigate the situation on the spot, he was killed in the crash of one of the only three courier aircraft to be lost during the entire period of the war in Spain.

As a matter of fact, though, in all developments concerning the German tank forces the spirit of their true founder, General Guderian, was discernible. And he was extremely eager to try them out at the front.

As far as the employment of the intercept company and the minor role played by the German Navy were concerned, one need only be acquainted with the far-reaching interests of Admiral Canaris to realize that they reflected his wish to keep an eye on what was going on, just in case. In his capacity as chief

58 - a

36

of German counterespionage and in view of his excellent connections with the German Navy and with General Franco, he had no difficulty in guiding these activities into directions which suited his own interests. It was also due to Canaris' skillful work that the many Spanish-speaking Germans residing in Spain were pressed into service in behalf of Franco's cause right from the beginning.

In the first place, they were able to provide urgently needed interpreters from among their ranks. And in the second place, all former soldiers and officers, after a short period of orientation to bring them up to date, were utilized in the many Spanish military training centers. It is worthy of note that these German-staffed schools turned out 60,000 Spanish officers, officer candidates, and non-commissioned officers during the course of the war, thus helping materially to improve the inadequate training standard of Franco's armies^{15a}. In connection with this extremely important question of training in the Spanish Army, one expert gave the following criticism in Hitler's presence in 1937: "The Spanish generals and their higher-ranking officers are stupid, lazy, arrogant, and unteachable, and in the interests of a rapid and effective retraining of the Spanish Army it must be ~~admitted~~ regretted that the Reds didn't do away with more of them."

As far as the Spanish enlisted man was concerned, it must be remembered that he had been the terror of all the battlefields of Europe for generations. The qualities which had made him so were still there; they simply had to be awakened. Well-cared for, the Spaniard is one of the best and most willing soldiers to be found in all of Europe.

15a - According to Generaloberst a.D. Jaenecke, German observers were not very favorably impressed by the standard of training in the Spanish Army, especially the standard prevailing among general officers.

II. The Struggle for Madrid (Summer and Fall 1936)

(See the map in Appendix 1)

Effective 8 August 1936, Franco transferred his headquarters to Seville. Thus, only three weeks after the beginning of the revolution, he was ready to begin his counterattack on the Spanish mainland. His first target was bound to be Madrid! If he should succeed in taking the capital, then the war would probably be over within a few weeks.

It was very important that Franco should strike as soon as possible, as long as his enemies were still relatively weak and without purposeful leadership. The Reds were exhausting their resources in dissipated, planless assaults, such as the ones against Huesca and Zaragoza in the east, on San Sebastian, Oviedo, and Gijon in the north, and on Cordoba and Granada in the south. So far they had been completely unsuccessful. It was obvious that this period of confusion in the enemy camp ought to be exploited.

The map in Appendix 1, showing the military situation as of July 1936, reflects the course of the front lines and the presumable intentions of the two forces at that time. It was evident that Franco, with his comparatively weak force of approximately 20,000 men, could not possibly succeed without help. It was urgent that he try to make contact with General Mola's northern army as early as possible.

Franco's first victory was the capture of the ancient Roman city of Merida, on the Guadiana River. Moving forward from this point, on 15 August his Moroccan legionaires managed to take the vitally important fortifications at Badajoz, on the Portuguese border, fortifications which had always played a significant role in Spanish history. This represented a large step forward. Above all, it brought Franco's forces into contact with General Mola's army and provided Franco with an important supply line to Portugal. Once in possession of these advantages, the long-delayed march on Madrid could be re-

79

60 - a

sumed.

In addition, Franco and Mola had the opportunity to draw up a systematic plan for the coordination of the operations to come.

Franco released some of his troops to Mola, in order to enable the northern army

to take Irun, already under seige, and thus to seal off the border to France.

In order to understand why Franco's march on the capital took so long, one must bear in mind that, in addition to carrying out military operations along the way, Franco's forces also had to restore order, set up new administrative agencies, and start the economy on its way to recovery. In connection with this activity, there is one fact which stands out as unusual. Neither in Andalusia nor in Estremadura, areas in which the workers and peasants were regarded as particularly radical and in which the dictatorship of the proletariat had been established on a number of occasions, nor anywhere in the rest of Spain was there the slightest attempt to rebel or to create disorder during the years to follow. It was astounding how quickly the specter of Red rule had disappeared. This goes to prove that the Spanish people were fundamentally unsusceptible to Communist-Bolshevist ideals (which, in any case, are foreign to the Spanish character), and were perfectly willing to submit to an order which recognized and guaranteed the simple right to exist of the poor and the dispossessed. The senseless terrorism, the murders, and the executions had evoked such a deep horror among the population that the entry of the Nationalist forces into a village or town was welcomed as the arrival of a liberation force.

In the meantime, the Red People's Front of Madrid was making a desperate effort to meet and ward off the attacking troops of Franco and Mola; the defenders did their best to exploit the favorable terrain to the utmost. On 29 August, after heavy fighting, Franco's forces occupied Ortesa, and on 4 September, after a struggle lasting for several days, they launched an attack against the heavily defended enemy position at Talavera, near the Gredos mountains.

On the same day Mola's troops succeeded in capturing Irun, thus disrupting the rear-area communications lines between the People's Front and France.

61 - a

91

Not until 22 September was Franco able to occupy Maquada, which brought him within just forty-five miles of his primary target, the city of Madrid.

From the point of view of present-day concepts it is difficult to understand why it should not have been possible, even with primitive means, to move forward more rapidly,

in order to take the capital before its defenses could be effectively organized. We must remember, however, that Franco had more to consider than just military deliberations.

Between Franco and Madrid lay Toledo, where the Alcazar was being staunchly defended by Colonel Moscardo and his small, but heroic, force. The eyes of the whole world were watching anxiously to see whether Moscardo could be relieved in time or would be forced to surrender. The Alcazar had become a kind of symbol for the spirit of the Nationalist movement. Only when one has seen for himself the ruins of this old Moorish fortress and has heard the tale of the bloody and tragic struggle to hold it, can one understand why Franco, at this point, relegated all strategical and political considerations to the background. He did not hesitate one moment, but set out immediately for Toledo, completely disregarding the loss of time and the lost opportunities involved. The detour was simply accepted as a necessary evil.

The garrison holding the Alcazar had been cut off from the outside world ever since 20 July. In spite of this, it had bravely turned back all enemy attacks, at the cost of heavy losses, and had held out through artillery fire, bombardment from the air, and three attempts to explode the fortress with mines, all without losing courage.

The mine explosions had brought down towers and parts of the outer walls. The entire fortress was a veritable heap of ruins. Not a single one of the surviving defenders had escaped being wounded. Nevertheless, whenever the alarm was given for a new Red attack, every man still capable of holding a gun crawled to his position and tried to repel the enemy with his infantry rifle.

The first sign that the outside world had not forgotten the beleaguered fortress came on 21 August, when a German Ju-52 dropped supplies into the fortress courtyard from the air. During the days which followed, Captain Moreau and Flight Captain Henke repeated their foray with equal success

62 - a

93

six more times, each time in the face of increased enemy artillery fire.

Nevertheless, it was a long, long month before help finally came. After the last two mules had been slaughtered and the last bites consumed, General

Varela, a combat-seasoned soldier and an old comrade in arms of General Franco, entered the city with his Moroccan volunteers. The first man to enter the Alcazar, on 27 September, while the fighting was still raging in the city, was Captain Tiede, a German serving in the Spanish Foreign Legion; it was he who brought the news that the liberating force was on its way. In recognition of his deed, Franco promoted him to the rank of major. Soon afterwards, he was killed in action.

The operation at Toledo was more than a military victory; it was also a moral one, and the world saw it in this light. This probably accounts for the echo it evoked abroad. And the reaction in Spain was similar; people accepted Toledo as a symbol of the spirit and strength of the Nationalist movement. The news of the liberation of the Alcazar was received everywhere with deep emotion, which meant a good deal more than mere jubilation at a military success. It strengthened the faith of the people, made them more firm in their will to resist the Reds, and brought the doubters and the timid over to Franco's side. People recognized that Spain was now really on the way towards the long-awaited rebirth, no matter how long, thorny, and wearisome the way might be. One might well term the ruins of the Alcazar the birthplace of the new Spanish nation.

And this was given expression in an important step. So far it had been the Junta of National Defense (Junta der nationalen Verteidigung), a council made up of several members, which had taken over the functions of government in the territory won by the Nationalists. This was merely a provisional solution, and there had been much talk of changing it. The leadership was to be entrusted to a single individual, and this individual could only be Franco. Franco himself, however, had requested that no action be taken until such time as the Nationalist cause might be backed by a tangible victory which would bring the Spanish people thronging about him. The moment had now come.

On 1 October 1936, in a solemn ceremony at Burgos, the Junta appointed

63 - a

95

General Don Francisco Franco to the office of head of state, "uniting in his person all the authority of the new state".

After the capture of Toledo, the military situation was as follows: Franco's small, but extremely effective African army was in the southwest, ranged

along the two highways leading to Madrid, one via Maqueda and the other via Toledo. General Mola's forces, made up primarily of the Free Corps of Requetes and Falangists, together with a number of units from the former Spanish Army, maintained only loose contact with the Franco forces. General Mola's army was occupying -- in places rather sparsely -- a semi-circle which extended from the Gredos Mountains in the northwest to the Guadarrama Mountains in the north, and -- describing a flattened curve towards the northeast -- reached a point the other side of Siguenza.

Thus there was no longer any chance of carrying out a surprise attack on the capital. In the meantime, the romantic enthusiasm with which eager bands of teen-agers (of both sexes), armed with nothing but rifles and pistols, had ~~reported~~ volunteered to help defend the city, was rapidly subsiding. The inhabitants realized that militia and untrained volunteers would be hopelessly outmatched by trained soldiers. It suddenly dawned on them with horror that the arming of the masses and the senseless waste of supplies had brought them into a hopeless situation. Prime Minister Largo Caballero himself took over the command of the defense operations. The chief credit for having brought reason and order into the confusion, however, doubtless went to the foreign advisers of the Madrid government, especially to the Russians, whose shipments of tanks and aircraft were also to play a valuable role in the defense.

Franco was soon to realize what he was up against. First of all, though, it was not until 7 November that his forces managed to reach the suburb of Manzanares and that Colonel Yague and his men were able to gain a foothold in the university quarter.

At this juncture, there were dramatic discussions among Red leaders in the capital, who could not decide whether the People's Front should remain in the city or flee to safety. It was only after several days had elapsed that the population learned that the Madrid government had fled to Valencia, leaving the defense of the city in the hands of a defense committee headed by a militia

64 - a

97

general. The inhabitants of Madrid were thoroughly indignant, but this was not the deciding factor.

The International Brigades

On 7 November, the morning after the government's flight to Valencia, the inhabitants of Madrid were greeted by an unexpected sight. Long columns of soldiers came marching down the street, not slouching along, as people were used to seeing the militia troops do, but in perfect order, marching in perfect step. It was obvious at first glance that these were genuine soldiers. Most of them were older men, their features sharpened by experience, and their gaze severe and determined; a conspicuously large number of them were blond. In the beginning, the watchers took them for Russians and greeted them as such. They were wrong, however; these were the first international brigades.

They were made up of foreigners who had come to Spain from all different countries. Most of them had already been issued Spanish passports in their induction centers abroad, permitting them to cross the French border unchallenged; the majority had come by train, crossing the border from Perpignan. There was a Thälmann battalion, a Garibaldi battalion, and a Lincoln battalion -- the latter under the command of a Negro.

To begin with, these international soldiers, most of whom had already fought in World War I, were assigned to the militia units at the various sectors of the front, so that the latter might profit from their military training and experience. But they were unable to accomplish very much, dissipated as they were in such small groups. Later, they were withdrawn from the front and sent to the camp at Alicante, where they were reorganized into special units.

The international units had arrived in Madrid just in time to decide the outcome of the fight for the city. The Red leaders deployed them tactically as follows: Defense positions of all kinds had been prepared in and on top of the houses in that part of the city bordering on the Manzanares, and all these positions were to be manned by the militia.

The international units were to be ranged behind them, ready to be employed as reserves in a counterthrust.

Without any artillery preparation of their own, Franco's forces had a difficult time getting across the wide Manzanares in the face of heavy defensive fire from the enemy. All the same, the incomparable bravery of his Legionaires and Moroccans seemed about to do the trick, when they were suddenly overrun by the counterthrust of the international brigades.

The combat-seasoned veterans of World War I now came up against the fatalistic-minded Moroccans and Legionaires, whose assault came to an immediate standstill with heavy losses for the Franco forces. Then began a heated battle which spread from one house to the next, with each man relying on his own experience and ability to see him through.

The struggle lasted for ten days until both sides were finally too exhausted to continue. The enemy was left in possession of a line extending diagonally across the Casa del Campo and the Manzanares.

On 23 November, Franco called a conference of his commanders in General Varela's headquarters. He was faced by a difficult decision. Should he continue the struggle for the capital right away or not? The decision not to do so would be bound to bring about a drop in morale, in view of the high expectations with which the world had followed his progress towards the capital. Nevertheless, he had no choice but to decide against immediate continuation. Careful appraisal of the situation and thoughtful consideration of the advice given by his generals convinced him that his forces were no longer strong enough. His small army had been on the move for more than three and one-half months, fighting almost uninterruptedly, and was at the end of its strength. And Franco had no reserves to fall back on. Therefore he ordered his troops to call off all further assaults; they were simply to hold the line they had already reached. Yet the capture of the capital remained the most urgent

66 - a

100

goal of operations. A new attempt would have to be made with a stronger force as soon as possible.

The Red Government in Valencia

The military victory achieved by the defenders of Madrid, a victory attributable to the international brigades in large part, had done much to strengthen the Red People's Front and to spur its supporters on to greater efforts in its behalf.

The activity of the Russian and French instructors began to bear fruit. It was largely due to them that the first shipments of weapons, ammunition, and equipment, most of which had been compiled quite unsystematically, were put to the most economical use possible. Supply was a relatively simple matter for the Reds, in view of their direct contacts with France and in view of the fact that Bilbao and the most important Mediterranean seaports, which received supplies coming from Russia, were in their hands.

While he was a prisoner in Soviet Russia, Generaloberst Jaenecke had several lengthy conversations with a Russian tank captain^{15b}, who claimed to have spent two years with the Red government in Valencia as an instructor. Judging from the captain's exact knowledge of geography, political conditions, etc. and his accurate descriptions of the country and the people, it seems apparent that he was telling the truth. He described the all-out efforts made by the Russians to mold their Spanish allies into an effective military instrument. The Russians had placed their very best aircraft specialists, tank experts, and instructors of all kinds at the disposal of the Spanish Reds. According to the Russian captain, the Soviets never for a moment considered it possible that they might lose the war in Spain. The captain told Jaenecke that he was still unable to understand how it had happened and, knowing that Jaenecke had been in a position to follow closely the course of the war from one year to the next, asked him to explain why the Reds had lost. Jaenecke told him that, in his opinion, the real reason for the Red defeat had been the political confusion which prevailed on the Red side -- with Stalinists, Trotzkyists, Anarchists, Nihilists, and the countless groups of Nationalists, such as the Basques and the Catalonians,

67 - a

102

constantly disagreeing among themselves, and each group spying on

15b - During the summer of 1948, in the Brickyard Camp (Ziegeleilager) on the Workuta River, about six miles west of the city of Workuta. This camp was notorious for the severity of its administration.

and opposing the rest whenever it could. The captain admitted that Jaenecke's analysis was probably correct. Jaenecke continued, mentioning that his own (i.e. the captain's own) fate -- first a trusted tank expert and then a lowly prisoner in a Russian concentration camp -- should have been enough to make him realize the truth. Again the captain agreed, recalling that always after his arrival at a new place of assignment he had had to spend a good deal of time finding out which faction was in command and had the greater authority. In reply to Jaenecke's question as to why he had been sentenced to imprisonment, the captain answered that his tongue had betrayed him. Jaenecke mentions that he had often heard this statement made by Russian prisoners. The tank captain had simply seen too much during his sojourns abroad. This alone made him suspect in the eyes of the Russian Secret Police, and a casual description of his experiences in Spain had been sufficient to make a spy who had heard him denounce him to the authorities. As a result, he was probably fated to spend the rest of his life in Russian labor camps. In the last analysis, he was probably just as innocent as countless other inmates in countless other Soviet camps.

III. German Military Activity in Spain prior to the Arrival of the Condor Legion
and the First Missions of the Latter

Even before the decision (taken at the end of October 1936) to support Franco by sending the Condor Legion to Spain, the groups of German volunteers in Spain had not been inactive.

The first air attacks on Madrid, carried out by Captain von Moreau's bomber squadron and the fighter unit under Eberhard's command, had encountered hardly any enemy defensive fire. Thus, during the first stage of operations at least, the German fliers were quite able to meet the many demands made upon their services by the Spanish forces. The Ju-52's flew to Oviedo, for example, where they came to the aid of an encircled Spanish force, and Eberhard's unit flew to Zaragoza to help ward off an attack by French bombers. In rapid succession the cities of Malaga, Cartagena, Almeria, Alicante, and Valencia were subjected to attack. All these undertakings involved long approach routes at the very least, and in some cases even required the temporary transfer of the German squadrons, most of which were based in the Salamanca area. Above all, they entailed a strain on flying personnel, ground personnel, and workshop facilities. The results achieved were not worth the expenditure of effort, labor, and materiel involved. But this situation was soon to change. Suddenly, more and more French and Russian aircraft began to appear over Madrid and its environs. It was known that the French had delivered quite a large number of aircraft to Spain, and the Spanish intelligence agency (under General Queipo de Llano) reported that approximately fifty modern Russian aircraft had arrived in Spain. The airspace above Madrid was now full of French and Russian aircraft of the most up-to-date design. During the course of a mission against the university quarter in mid-November, Moreau's squadron

encountered twenty-five enemy fighters, and the Ju-52's were able to escape only with the greatest difficulty. During a subsequent attack on the Cerro (=hill) de los Angeles, they ran into a still larger force of Curtiss fighters and into the first Ratas, which later turned out to be the strongest foes of the German fighter aircraft.

One Ju-52 was badly hit and, with one fatal casualty on board, had to make an emergency landing. Squadron leader Moreau did not hesitate but landed next to the crippled Ju-52 in the midst of the hilly, brush-covered terrain, firmly convinced that they had landed in enemy territory. Moreau and his crew got out their submachine guns, ready to defend themselves from the enemy and prepared to take off under enemy fire with their rescued comrades. But the troops which were warily approaching the landed aircraft turned out to be Moroccans; the aircraft had come down about 300 feet behind their own lines. As soon as darkness set in, Moreau took off with the two crews for Salamanca.

The recently arrived heavy antiaircraft artillery battery, under the command of Captain Aldinger, took up its position in the area southwest of Madrid to combat the strafing attacks of the Curtiss' and the Ratas and to do what it could against the new twin-engine Martin bombers and the Potez models. The battery was much too weak, however, to keep the enemy from bothering the Nationalist forces entirely. Furthermore, it had to keep moving from one position to another in order to avoid enemy bombardment. In the beginning its operations also suffered from the fact that it was using half German and half Spanish crews. Even so, the first hits scored by ~~the Spanish~~ did provide some relief for the Spanish troops.

The Red bomber pilots soon began to release their bombs from the respectful altitude of 13,000 feet, and as soon as the first antiaircraft artillery shells revealed the location of the German battery, they turned tail and disappeared. But the battery couldn't be everywhere at once.

70 - a

The 88 mm antiaircraft artillery piece was a particularly well-designed weapon. It was not only in Spain that it brought the German antiaircraft artillery forces an aura of invincibility; it maintained this aura throughout the end of World War II, during which it was utilized in a number of different ways. When this weapon

first appeared in Spain, the enemy intelligence authorities did not know what to make of it; they were especially puzzled by the fire control set. They summed up their astonishment in the statement that the Germans possessed such an accurate "electrical" gun that they could shoot a penny out of the hand of a soldier at a distance of eight miles.

The 88 mm gun retained this reputation throughout the end of the world war, no matter whether it was used in open terrain or installed in a tank.

X A biplane rather like the Curtiss in design and the low-wing Rata were considerably superior in performance to the German Ju-52 and He-51 as well as to the Italian Fiat aircraft, and were soon able to challenge successfully the air superiority hitherto maintained by the Nationalist side.

The Red antiaircraft artillery was also reinforced and proved thoroughly effective when employed at the focal point of operations, particularly in the Madrid area. The Red bomber and long-range reconnaissance units, on the other hand, rarely put in an appearance. Although the aircraft type used, comparable to the Martin bomber, was by no means inferior, for some reason it was employed only in unimportant solo attacks (up to flight strength) on targets in the Nationalist hinterland.

X Even in the direct support of ground operations, the Red bombers always hung back and let the fighters take over.

All in all, these factors changed the picture at the front only in that the German bomber attacks were carried out to an increasing degree during the night.

X For the time being the German naval aircraft units retained their base at Cadiz, from which they patrolled the western Mediterranean so that the ocean transports could be carried out without interference again. In mid-July 1937 they moved to Pollensa, on the island of Mallorca, where they remained until the end of the war. Here they were in an excellent position to harass the main Red supply lines, and despite their numerical weakness they represented

71 - a

158

a continuous thorn in the flesh of the Red government at Valencia.

In terms of numbers, the aircraft, crews,

and materiel available to the two sides at the beginning of the Spanish Civil War were probably fairly equal. The majority of this materiel, however, was so inferior that it had no real military value. Only those machines imported from abroad, with their specialists and instructors, were really of any use.

At this time Franco's air force was under the command of General Kindelan. The following aircraft were turned over to him: 14 Ju-52's, 12 He-51's, and 21 He-46's.

At the beginning of October 1936, the first purely Spanish Ju-52 squadron was ready for employment at the front. Training progress had been equally rapid in the fighter, antiaircraft artillery, tank, and signal communications units.

In this connection mention must certainly be made of the valuable and willing assistance provided by the Lufthansa, with its personnel and organization, during the first months of the war in Spain. Not only was the Lufthansa responsible for carrying out the first transports from Tetuan to Seville, but later on, on its own initiative, it took over the task of setting up the courier service.

Nor should we forget the "Hisma" (Hispano-Moroccan Transport Company), operating under the direction of a businessman named Bernhard, which rendered valuable service to the entire Spanish project.

Soon Major Deichmann's office, in the Hotel Christina in Seville, was designated as the central clearing-house for all German operations pertaining to courier service, supply, mail transport and delivery, and rear-area communications. Major Deichmann became a well-known figure to all the German volunteers who were processed through his office.

In compliance with Franco's wishes, even the first units to arrive were unloaded by German military personnel. They comprised one tank battalion, made up of two companies and one transport company, a small number of antitank guns, and one signal communications company. The tanks were to be turned over to the Spaniards as soon as they had been trained to operate them. It soon

became apparent, however, that it was better to have the German crews ride along with the Spaniards. The Panzer Group Drone (Drohne) was under the command of Colonel a.D. Ritter von Thoma.

Under the overall code designation "Beekeeper" (Imker), army training schools were set up all over Spain, with German-born Spaniards as instructors. Most of them veterans from World War I, these men not only possessed the requisite military training and experience, but could also speak the language and were acquainted with the mentality of the Spanish soldier. The "Beekeeper" schools were under the command of Colonel a.D. Freiherr von Funk, who, at the same time, was in command of all the German Army units and also acted as military attache. Colonel Warlimont had returned to Germany soon after the arrival of the Condor Legion.

The Arrival of the Condor Legion and its First Missions

The German military aid embodied by the Condor Legion arrived in Spain at the beginning of November 1936 -- and this was none too soon, for Franco's position had deteriorated substantially in the meantime. This was especially evident in the struggle for Madrid, which was becoming more difficult every day.

A mixed Italian-Spanish bomber squadron had attempted to move its base forward to a point near the foothills, some ten miles from Madrid. Promptly at dawn they were attacked by low-flying Red fighter aircraft and the entire squadron was destroyed.

Again and again Nationalist leaders urged that the Red seaports be destroyed in order to stop the flow of weapons coming from abroad.

Thus it was quite natural and entirely in keeping with the personal courage of General Sperrle ~~when he was in Spain~~ that he should decide to commemorate his arrival in Spain by taking the bull by the horns and utilizing his entire bomber fleet in an attack on the Red seaport of Cartagena. In this way he made himself famous the very first day. In Spain up to that time it had been

73 - a

considered a dangerous undertaking even to set foot inside a bomber. In addition, the entire Red fleet lay at anchor in the harbor of Cartagena.

The harbor, famous since the days of Hannibal, was surrounded by hills which were full of enemy artillery of all kinds (up to and including 380 mm guns), antiaircraft artillery included. It was an unheard-of thing in Spain for a general to fly at the head of his bombers into a lion's den of this kind.

On 15 November, General Sperrle and Major Fuchs, leading a group of thirty-four Ju-52's, attacked the port of Cartagena.

In order to avoid having to fly over the mountains in the interior and having to cross Red-held territory, the entire bomber group flew from Salamanca to Melilla in Africa. Forty tons of gasoline and six tons of oil were loaded into ships at Cadiz and transported to Melilla with an escort of warships and submarines. The ships also carried signal equipment and signal communications troops, direction finding equipment, meteorologists, mechanics, radiomen and radio equipment, air traffic control personnel (to aid in setting up a provisional airfield), tractors, and medical personnel. Preparatory and reconnaissance flights had to be carried out. Contact had to be established with the Spanish and the Italians in order to assure effective air traffic control operations. Finally the naval aircraft units, using Melilla as a base, were sent up on one last reconnaissance flight to check on weather conditions and the target itself. Loaded to capacity with bombs, all thirty-four Ju-52's reached Melilla at noon. At four o'clock in the afternoon, they took off for Cartagena, at intervals of ten minutes between each group of two aircraft. Naval air reconnaissance aircraft, warships, and intelligence agents were on hand to observe the effectiveness of the attack. At 1730 the first reports came in of huge fires raging in Cartagena. The Red warships -- or rather those still able to move -- left the harbor immediately and sought safety in the open seas. Two steamships went up in flames, and the port was put out of action for some time. The following day the thirty-four Ju-52's, without a single loss, returned to Salamanca. There they found no fewer than three employment requests waiting for them. The same evening they appeared again over Madrid.

IV. The Struggle for Madrid Continues (December 1936)

The struggle for the capital continued during December. Once again, the fighting, concentrating on the university quarter, the Manzanares area, and the sector in front of Cerro de los Angeles, was extremely heavy and resulted in high losses on both sides. Neither side made any appreciable progress, but the Reds took advantage of the opportunity to perfect their defensive tactics, while the Nationalist attackers were forced to chalk up daily losses to the Red machine-gun fire.

The Condor Legion supported the Nationalist attacks with all the means at its disposal until weather conditions became so bad that no more missions were possible. In defiance of the enemy fighters, which were rapidly gaining superiority, the Legion's bomber squadrons went up every day. Their take off was carefully timed to bring them over targets lying just ahead of the infantry advance; sometimes they dropped as many as forty tons of bombs in one day. And these bombardment attacks were tremendously effective. Even so, the bombers were unable to silence all the enemy machine-gun nests, and wherever there was machine-gun fire, the infantry assault was bound to founder. The troops were obviously nearing exhaustion. At the same time the Legion continued its attacks on the airfields of the enemy, although the increasing number of Ratas made its task more dangerous than before. Very soon the German bomber squadrons discovered a simple, but effective trick to keep the enemy aircraft from escaping from the airfields under attack. Three aircraft took on the Red fighters and kept them in the air so long that they were finally forced to return to their bases to refuel. At this point, the rest of the bombers, which had been standing by at a higher altitude, dived towards the airfields with their escort of Italian and German fighter aircraft and unloaded all their bombs on the refueling enemy aircraft below. Several enemy squadrons were destroyed in this way before the enemy caught on to the new tactics and took appropriate measures to counteract them.

75 - a

The task of the German fighters had become more and more difficult and more and more costly in terms of aircraft and personnel losses. They sacrificed themselves in bold attacks on the Red fighters, but the superiority of the latter became more and more clearly evident as time went on. The German fighter pilots finally had to give up the practice of

seeking combat with the Red fighters; instead they restricted themselves to providing escort services for the bombers and furnishing air support for the ground operations. This situation was bad, not only for the reputation of the German fighter forces but also for the fighter crews themselves. The Legion commanders, with-out hesitating, drew the appropriate conclusions and ordered the fighter units to limit themselves to providing support for the ground forces until their new fighter aircraft should be delivered. All in all it was a critical period for the German fighter pilots.

V. The Capture of Malaga by the Italians (10 January - 8 February 1937)

In addition to the German volunteer units which we have already described, Franco had also been given some Italian air units. One unit, of about squadron strength, was equipped with bombers (Savoya-79), but during the first few months it was utilized only rarely in bombardment missions; it was employed primarily in transport and courier services between the Italian headquarters themselves and for the Italian fighter forces.

Once the Italian Army units had arrived, the Savoya bombers were used almost exclusively in tactical operations in Italian combat area and had practically no effect on the overall military situation, or even on the air situation. On the other hand, a group of Fiat fighters, which had also been part of the first Italian air forces to arrive in Spain and which were subsequently employed much like the German fighters, played a more significant role in terms of both their operational readiness and the degree of success they achieved.

The most important part of Italian support was to take the form of the Expeditionary Corps, which began to arrive in Spain during the fall of 1936 and which was immediately deployed to strengthen the Malaga front. The Corps was composed mainly of Fascist units and militia groups, and their fighting effectiveness was far inferior to that of Franco's own troops, not to mention that of the international brigades.

76 - a

116

The support which Franco received from Portugal was insignificant from the military standpoint; economically and politically, however, it was of great importance.

As we have already mentioned, by the winter of 1936/37 the Italian Expeditionary Corps had arrived in southern Spain and had already been deployed along the Malaga front. The Corps was really a small army of approximately 50,000 men, with permanently organized units and an administrative apparatus of its own. Most of its infantry units were motorized, and the resulting "mobile units" were an innovation in the commitment of infantry forces. In Spain these units were tried out for the first time in a European theater of war.

The primary objective of the Italian force was the capture of a suitable Mediterranean seaport, so that Italy would no longer be subject to British inspection in the Straits of Gibraltar.

Theoretically, the Malaga operation was under the command of General Queipo de Llano, whose Spanish troops, beginning their advance on 10 January 1937, were slowly approaching Malaga in an extended line, coming from the south and the west. Concurrently, mobile units of Italian infantry were to push forward through the mountains to the north and northeast of the city in order to cut off the enemy's retreat route, the highway leading along the coast from Malaga. This mountain range, a western continuation of the Sierra Nevada, has some peaks as high as 6,500 feet; in addition, it was the middle of winter, which meant that the Italian motorized columns could not get through the snow-packed passes until 3 February. Not until then could the overall attack begin. On 8 February, the city of Malaga was captured. But it turned out that the enemy had recognized the danger threatening from the rear and had already withdrawn the majority of his troops along the coast. The attackers pursued as far as Motril, about half-way between Malaga and Almeria. At this point the new front line was formed, which extended as far as Granada and then curved towards the west to Cordoba.

The great Italian victory was not what it seemed. The commitment of the Italian forces, which had acquired an aura of invincibility by virtue of their success in Ethiopia, had been preceded by so much propaganda and so many prophe-

77 - a

118

cies of certain victory that the morale of the Red troops had been completely shattered; thus there was hardly any fighting -- the Reds simply fled. If Nationalist leadership had been firmer and more determined, in other words if General Queipo de Llano had insisted on pursuing the demoralized Reds and rolling up the entire Mediterranean front,

it is certain that a much greater victory could have been achieved. The Italians did not even attempt a pursuit operation, but were quite content to settle down in Malaga and celebrate their victory. On second thought, this was probably the wiser course after all, for the Italians would certainly have suffered a setback in the difficult terrain of the Sierra Nevada if they had encountered energetic resistance from the international brigades.

The Malaga operation had taken longer than anticipated. As a result, the Italian units were still tied down in the south at a time when they were urgently needed elsewhere.

VI. The Struggle for Madrid during the Winter of 1936/1937

(See the map in Appendix 2)

For in the meantime a new, large-scale attempt was being undertaken to seize the capital and bring the war to an end. During the winter the Nationalist forces had launched a number of assaults from the positions they had already taken just outside Madrid, particularly from the university quarter, in an attempt to penetrate further into the city. During these assaults the German bomber forces were employed as a substitute for the artillery which Franco lacked. But the Spanish troops could not be prevailed upon to move forward right away in the wake of these bombardment attacks and thus failed to take full advantage of their great effectiveness in the relatively limited areas concerned. Although fighting had often been heavy during the winter, the Nationalist assaults had led to no tangible success.

At this point General der Flieger Sperrle, commander of the Condor Legion, suggested a new plan to the Spanish Generalissimo, a plan which the latter accepted. Instead of trying to take the city by storm, which presumably would involve capturing it house by house and street by street and would certainly leave at least a part of it in ruins, Sperrle proposed that the city should be encircled.

If the Nationalists could manage to occupy the highways leading to Valencia and Barcelona and thus cut off the capital from the outside world and from all her sources of supply, then Madrid's 800,000 inhabitants, whose supply stocks were known to be extremely low, would be forced to surrender within a short time to escape starvation. In order to surround the city, the Nationalists would have to attack from two directions, one force approaching from south of Madrid, proceeding across the Jarama, a tributary of the Tajo, towards the east and then veering north, and the other moving from Siguenza towards the south. The two flanks would meet southeast of the city, thus closing it off completely. If this operation was to succeed, then it was clear that the two forces would have to move simultaneously. And it was precisely this coordination in timing which failed, probably because the Italian mobile units had been tied down too long by the operation in Malaga and then had to be transported over long detours through western and northern Spain to their new starting point in the Siguenza area. Thus it happened that the operations originally envisioned as a whole actually took place as two chronologically uncoordinated entities, the battle on the Jarama and the battle of Guadalajara, a city located approximately half-way between Siguenza and Madrid.

On 6 February 1937, General Varela launched his assault towards the east from a position south of Madrid. On 13 February his forces were able to push their way through the heavily defended Jarama sector to the Madrid-Valencia highway lying just beyond. Only a small wedge, however, could be driven across the highway to the territory beyond. Inasmuch as General Miaja, the defender of Madrid, was not being threatened from any other front, he was able to concentrate his entire reserves at the danger points beyond the Jarama. Varela's operation was brought to an immediate standstill and his forces were driven back across the highway. The fighting subsided gradually, but could not be brought to an end until 24 February, three weeks later. Varela's forces had been unable to capture the highway to Valencia, but at least they were in a position to keep it under

fire from the newly established front line on the Jarama sector.

Not until two weeks after the end of the fighting on the Jarama sector, did the second phase of the offensive against the capital get under way from the Siguenza area. Nationalist leaders had hoped that the time-consuming preparations could be completed in time for the attack to begin by the end of February. But the threat to Oviedo, in the north, had intervened to cause further delay.

Right at the beginning, in July 1936, General Aranda had taken Oviedo (the capital of Asturia) for the Nationalists, but the Asturian miners, tough and well-armed fighters, had not given up their struggle to gain it back. They had surrounded the city from all sides and, for weeks on end, had been carrying out furious assaults against the weakening garrison. They had even succeeded in gaining footholds in the outskirts of the town, although General Aranda, in a nearly desperate situation, was still holding the center with his rapidly dwindling forces. Completely cut off from the outside world, Aranda's stand in Oviedo was just as stubborn and just as courageous as Moscardo's in the Alcazar of Toledo. Finally, during the second half of October 1936, a relief force was sent from Galicia which succeeded in reaching the city and eliminating the danger for the time being. Although a thin line of contact had been established between Oviedo and the Nationalist troops occupying Galicia, the relief force was not strong enough to repulse the enemy. The Reds withdrew to the hills surrounding the town, and the siege continued.

Then, at the end of February 1937, just as the preparations for the offensive on Madrid were nearing their conclusion, the Asturians launched a new and desperate attempt to seize Oviedo. Franco had no choice but to load some of the troops assembled at Siguenza into trucks and to send them to the rescue. After heavy fighting, the Asturians were pushed back to their original positions, peace and order restored in Oviedo and its environs, and the relief force could be transported back to Siguenza.

But the Oviedo interlude meant that the Madrid operation had been delayed for more than a week, and -- as luck would have it -- this week ushered in a period of bad weather. The attack had been carefully planned. The main force was to advance via the broad highway leading from Siguenza to Guadalajara and on to Madrid. This force was made up of the mobile units of the Italian Corps, under the command of General Bergonzoli, who -- with his mobile units -- had been the first to enter Addis Abeba during the Ethiopian campaign in May 1936. At the same time, two secondary forces, composed primarily of non-motorized Spanish troops, were to advance one on either side of the highway. The two secondary columns were commanded by Moscardo (who had been promoted to General in the meantime), under the overall command of the resourceful and cautious General Mola. The main prerequisite for success was speed, so that General Miaja, who had the advantage of the inside line and consequently shorter distances to cover, would have no chance to bring his reserves into position in time. The need for fast action was no doubt one of the reasons for the excessive haste employed.

The maneuver began on 8 March 1937, and progress was good the first day. The Italian vehicles moved forward smoothly and the first ones even reached a point just a few miles short of Guadalajara. On the second day, however, it began to rain and kept on raining until it was a veritable downpour, interspersed with snow flurries, which made it impossible to see anything. The terrain between Siguenza and Madrid lies, on the average, about 3,000 feet above sea level. Within a short time the clay soil on either side of the highway had turned into viscous mud, and the troops could proceed only very slowly. To make matters worse, the floods had torn away a temporary bridge located just behind a fork in the highway (the original bridge had been destroyed by the defenders). It took quite a while until a provisional bridge could be constructed, and all during this time the advance part of the Italian column was completely cut off from the rear. By the time the bridge was ready, the many

trucks and tanks were so congested at the fork in the highway that it was almost impossible to disentangle the jam, especially since the vehicles could not be driven off the road into the soft mud. The advance came to a complete standstill. Moreover, the secondary columns, advancing on foot, had been left far behind. And this was the end of the hoped-for surprise attack. The advantages inherent in the mobility of the Italian motorized units were now useless.

Thus General Miaja gained the time he needed to bring his reserve forces into position and was able to go over to the counterattack. As a soldier of long experience, he managed this very skillfully. He utilized only a few troops in a frontal attack designed to contain the advance Nationalist force, while employing the majority of his force, approximately 15,000 men, including the international brigades (made up chiefly of Germans and Italians), in an assault from the south, via the town of Brihuega, against the highway between Guadalajara and Siguenza, in other words against the flank and the rear of the Nationalist troops. The main force of the assault was directed against the advance columns of the Italian Corps, far out in front.

A great deal, including a great deal that is erroneous, has been written concerning the battle of Guadalajara, which now ensued. Generaloberst a.D. Jaenecke has the following to say in this connection: "Shortly after the end of the battle, I spent some six weeks in Spain, during which I had a chance to talk with all the leading personalities involved -- Franco, Aranda, Vigon, Orgas, Moscardo, Queipo de Llano, the German Ambassador, Faupel, the Italian generals, and Sperrle and von Richthofen. Despite the length of time which has elapsed since then, I still remember the content of these conversations quite clearly. For one thing, I recall that Sperrle and von Richthofen told me that the Italians had initiated the Legion into the details of their coming attack only reluctantly and at the last minute. As a result, at the very last minute the Legion had to send a number of liaison officers to the Italian sector in order to obtain an unbiased picture of just what was going to happen there."

Immediately after my return to Germany, I prepared a memorandum reflecting the conversations I had had in Spain and submitted it to Hitler. This memorandum is presumably still on file somewhere in Germany. Its contents are the same as those of a report I sent to General der Flieger Paul Deichmann on 6 April 1956, viz:

'On that day I spent two hours with Hitler, during the course of which I talked for at least an hour and a half. One of his first questions was, 'What do you think of the Italians?' I reported what had happened during the battle of Guadalajara. After their victory at Malaga, where the Reds had run away rather than face the assault of the "invincible" Italians, the three Italian divisions had moved into position between the Guadarrama Mountains and Teruel, in the overweeningly confident opinion that they could simply swoop down on the capital from the north, swing around to the south, and then push through to the Mediterranean along the railway line connecting Madrid and Valencia. They wanted to end the entire war with one overwhelming blow. I explained to Hitler how the Italian attack swept over two Spanish divisions and actually made good progress during the first three days. On the fourth day, though, it started to rain and the hard clay soil soon became so soft that the troops couldn't move. The only "roads" in the entire region are narrow, asphalt-surfaced paths only wide enough for a farm-wagon, and these were so covered with mud and clay that all the Italian motorized units (the Division Littorio and two militia divisions) bogged down completely. At this point a few combat patrols from the international brigades attacked, and the scattered rifle fire from these few Red troops was enough to create such panic that the Italians lost their heads completely and ran away so fast that no one could have stopped them. German officers, who were present as observers in the Italian sector and who witnessed this little drama, assured me explicitly that this was by no means a systematic attack by Red troops or by full-strength international brigade units; it was only a few

small patrol units scouting along the Italian breakthrough front. As I related to Hitler, some of the Italian officers were down on their knees praying to the Virgin Mary; others actually told their men to leave everything and flee.

In the end it turned out that the three Italian divisions, which had come to Spain with such fanfare and crowned with premature laurels, couldn't even be properly reformed in the positions from which they had started out. As a result, the two Spanish divisions bypassed by the Italian attack, had to be alerted to close the gap in the front! The Italians were completely useless; they needed at least six months in which to learn enough about military tactics to be entrusted with the defense of a quiet sector of the front. As a result of the episode described above, the much-vaunted Italians completely lost the respect of the Spaniards as well as whatever confidence Spain may have had in their military effectiveness -- nor were they ever able to regain this respect and confidence throughout the balance of the war. In this context, we must bear in mind that the Spanish soldier has always been a brave, undemanding, and reliable fighter, willing to do his very best as long as his officers saw that he was housed and fed and treated as a human being. The heroic deeds of Cortez and Pizarro are not forgotten; during the Thirty Years' War the Spanish swordsman was one of the most feared warriors on the battlefields of Europe. And this military spirit and will to fight still lies in the make-up of every Spanish soldier today; it simply has to be awakened and molded. Is it any wonder, then, that the Spaniards, proud as they are, accepted and utilized Italian and even German military aid reluctantly and as a necessary evil? For this reason, the news of the defeat and the ignominious failure of the Italians spread like wildfire within a matter of hours from Gibraltar to Bilbao and was soon transmitted all over Spain. From the standpoint of military reputation, the Italians never recovered from this blow. Mussolini was furious, and his commander in Spain,

General Roatta, didn't dare come near him for months. In contrast, the fame and comradliness of the German soldiers seemed all the brighter, for the Spaniards were convinced that such behavior was inconceivable on the part of the Germans.

Before leaving this subject, Hitler asked me a few more questions. My answers, in summary, were as follows: I said that if Hitler intended to incorporate the Italians as a trump card into his political and military planning, it was high time to start thinking about an exchange program for general staff officers as well as other ways and means of achieving better and more effective training in the Italian armed forces. I pointed out that, while certain special units such as flying units, engineer companies, and Bersaglieri, might be evaluated as highly satisfactory, the majority of the Italian armed forces still remained the same old collection of incompetents they had always been. I reminded him that a King of Naples had once said the following about them: 'You can take as much trouble with the Italians as you want, you can give them the very best weapons, a mountain of ammunition to practice with, you can dress them in red, blue, or green uniforms, but you will never succeed in transforming them into a useful military instrument.' There are two principles to which they will always remain true. The first is: when the enemy comes into view, the best thing you can do is to run the other way; and the second: better to be a coward for five minutes than dead all your life.' I told Hitler that the only thing which had changed in Italy was Mussolini's big mouth, which was trying to convince the Italians that they had been the real visitors of Vittorio-Veneto.

The moment I had said this about Mussolini, I was horrified at my own daring and I was anxious to see how Hitler would take this rather derogatory remark about his alleged friend. To my surprise, he slapped his adjutant Hossbach on the back and burst out laughing.

From all that I experienced later on, I am firmly convinced that the situation in Italy has not changed to this day and that my comments to Hitler, which were based on eye-witness reports, are still true.

After the debacle at Guadalajara, the Italians had lost the majority of their weapons, vehicles, and ammunition and it was months before their losses could be made up and -- even more important -- the morale of their units restored. The fact that the three Italian divisions sent to Spain contained a good many adventurers and unemployed, and thus could not be regarded as reflecting the very best human material, may be considered a mitigating circumstance.

This will be discussed in greater detail in my account of the events which followed, events which I witnessed personally.

In any case, it is obvious that the available accounts are far too lenient as far as the Italians are concerned."

The new front lines established at this time and destined to remain unchanged for years differed very little from the previous one. Once again, the attempt to capture the Spanish capital had failed, and this attempt was not repeated in the future. But far more important was the fact that the Reds had won their first real victory at Guadalajara. Apart from the involuntary help provided by the Italians, this victory was due above all to the military skill of General Miaja. But Miaja's forces, too, had suffered heavy losses, particularly the international brigades (and among these, especially the German Thälmann battalion almost and the Italian Garibaldi battalion). The Thälmann and Garibaldi battalions were / completely decimated, and no longer appeared as closed units in the fighting in Spain. A good many of the men who had come from all corners of the world to help in the struggle against Fascism now found it more propitious to leave the all too dangerous soil of Spain. Those who remained were integrated into the Red army.

VII. Franco's Offensive in Northern Spain (April - June 1937)

(See the map in Appendix 3)

The fiasco on the Jarama and the defeat of Guadalajara had to be counteracted as soon as possible and their repercussions on both internal and foreign politics smoothed over without delay. Therefore Franco

decided to embark on a new offensive right away. This time it was to be directed against Asturia and the Basque country in the north. The enemy front, some 370 miles in length, was to be assaulted from the east and completely overrun. If Franco could succeed in accomplishing this, he would be relieved of the difficulties entailed in fighting on two fronts at the same time. All danger from the north would be eliminated, and the Generalissimo would be free to employ the fairly large force tied down in the north in decisive operations elsewhere. Recent events had made it clear that a rapid victory was out of the question and that Franco would have to reckon with a longer war. Under these circumstances, the capture of the northern provinces ~~xxx~~ would be a decided advantage since their raw materials and industries would represent a valuable addition to his armaments program. Furthermore, he would be in a position to seize the important harbors on the Bay of Biscay, which in turn would enable him cut off the Reds from the sea, at least in this area. For England had denied Franco recognition as a warring party and thus had refused to ~~xxx~~ allow ~~xxx~~ a blockade permitting him to stop neutral ships. Besides, the fleet which patrolled the northern coast of Spain under the provisions of an international agreement was helping to support Franco's enemies by letting through shipments of foodstuffs.

The primary target of any offensive beginning in the east was bound to be the Basque province of Biscaya, with its capital of Bilbao. Biscaya was a center of the iron industry in Spain, and a good deal of the industry there was financed by British capital. The difficulties facing Franco's troops were unusually great. The country surrounding Bilbao is very hilly, with broad ranges dotted with high peaks of sheer granite. Towards the south, in other words in the direction of the interior of the country, the city is screened by the foothills of the Cantabrian Mountains, whose ridges reach a height of 5,000 feet and are so sharp and jagged that there are very few places where they can be crossed.

The enemy was fully aware of the significance of Bilbao as an import harbor

67 - a

129

and as one of the main sources for vital war materiel, and had taken steps to make it impregnable. The outer line of defense, solidly established and

enhanced in its effectiveness by the contours of the terrain, began between the passes at the eastern border of the province, about half-way between San Sebastian and Bilbao, and extended towards the south across the ridges of the Cantabrian Mountains. This was the front which had stopped the offensive of General Mola during the previous September, after his troops had captured Irún and San Sebastian.

There was an even stronger defense line extending in a shallow semicircle around the city of Bilbao, touching the coast at each end. This line had been developed into a regular fortified wall, the sort of fortification in which the Basques were past masters. There were a good many miners among them, who were familiar with the construction of saps and drill-shafts; there were also concrete construction experts who boasted that they could build shelters impervious to bombardment from the air. The result was really an almost impregnable fortifications line. Called the "iron belt of Bilbao", it was considered to be practically unassailable.

X

Freiherr von Richthofen - The Flier and the Commander

The history of the Spanish Civil War is inseparable from the career of Freiherr von Richthofen in Spain. At the time the situation first began to become critical, von Richthofen was in Rome as air attache. He was still in Rome when his appointment came through as chief of the Development Research and Testing Branch (Abteilung Entwicklung und Erprobung) of the Technical Office (Technisches Amt), Reichs Ministry of Aviation. Von Richthofen's new task was to take charge of the vitally important development and testing of new aircraft models for the Luftwaffe.

As a young second lieutenant, he had served in the first world war in the fighter wing commanded by his unforgettable cousin, Manfred von Richthofen.

His record of three or five enemy aircraft brought down gives ample proof that he had inherited his cousin's daring and flying ability.

In December 1936, von Richthofen himself visited Spain in order to super-

vise the employment of the new German aircraft models, the He-109, He-111, Do-17, and the dive bomber Hs-123.

By virtue of his inspection activity, von Richthofen naturally came into close contact with the commander of the Condor Legion, General Sperrle. Here, too, von Richthofen's expert advice proved very valuable, and he soon won the respect of the Legion's commander and staff.

Thus no one was particularly surprised when he turned up as the Legion's chief of staff in January 1937.

Von Richthofen (in the meantime promoted to lieutenant colonel) was not only an outstanding officer and an expert in Luftwaffe affairs, but also an extremely skillful negotiator. He got along beautifully with the Spaniards and was held in esteem by Generalissimo Franco. Thanks to his knowledge of Italian, he was soon able to speak enough Spanish to hold his own in a conversation and even to be able to discuss military plans with the Spanish officers. One can say without exaggerating that he was soon ^{The} acknowledged spokesman of the Condor Legion. At the same time, the relationship between General Sperrle and his chief of staff was an unusually cordial one. The two men complemented each other perfectly, and their excellent teamwork contributed a great deal to the position of respect which the Legion established for itself in Spain.

The latest military developments showed clearly that conversion to more up-to-date aircraft models was an urgent necessity. The determined and flexible leaders of the Condor Legion were exercising more and more influence on the overall conduct of operations by the Nationalists. In the meantime, the prompt evaluation and application of experience gained had turned the Legion into a powerful specialized force, dedicated to the support of the Nationalist troops. Close cooperation among Spanish, Italian, and Condor Legion officers had succeeded in eliminating some of the initial difficulties inherent in the conduct of joint operations. It was, of course, impossible to eliminate them all.

Franco was now confronted with the problem of deciding just how the offen-

89 - a

132

sive should be launched. After long and careful consideration, General Mola was placed in command. This was to be his first big victory; through an unfortunate coincidence, he did not live to see it.

The main protagonist of this new phase of the fighting was the Navarre Corps (consisting of five brigades), under the command of General Aranda and his

highly competent chief of staff, Colonel Vigon. The brigades were made up of regular troops as well as militia units consisting of Requetes and Falangists. They were well-trained, experienced veterans, most of them Carlists from northern Spain, and they were led by competent officers from the former Spanish Army. The battalions (called "tercios"), were made up of well-trained soldiers, whose fighting morale was high and who fought with great courage. Most of the battalions were named after saints, St. Ignace, St. Michael, etc. All in all, they could be regarded as excellent military material, of the same stamp which had made the Spaniards such excellent soldiers all through history.

General Mola also had under his command the three Italian divisions, which -- since the debacle of Guadalajara -- had become somewhat less boastful but no more efficient from the military standpoint. There was one active division, the "23d of March", and the "Blue Arrow", "Black Flame", and "Black Arrow" brigades, the latter brigade being made up of one-third Spanish soldiers and two-thirds Italian legionaires.

Finally, the Condor Legion -- particularly the bomber and fighter squadrons and the antiaircraft artillery batteries -- was assigned to provide support for the Navarre Corps. The fighter units, in tireless low-level attacks, brought all traffic in the Bilbao area to a standstill. The 88 mm antiaircraft artillery batteries intervened with spectacular success in the ground fighting, whenever their services were not required against the Red fighter aircraft. With their high firing speed, the devastating effectiveness of the 88 mm grenades, and their firing range of almost eight miles, they soon dominated the battlefield.

In order to soften up Bilbao for the main attack, a number of preparatory assaults were carried out from the troop assembly area near Vittoria. General-oberst Jaenecke, together with Sperrle and von Richthofen, was present at most of these assault undertakings, which he describes as follows: "These daily ^{nt} attacks, by which we hoped to capture the passes leading over the lofty Calabrian Mountains, were carefully planned in all details. The close contact maintained

90 - a

134

among the various command headquarters, all located fairly close to one another in and around Vitoria, was a decided advantage in this connection. Soon after dawn the staff of the Condor Legion was esconced on the top of a high hill, almost as if it were in a box in the theater,

from which it could watch developments along the entire operational sector. The fighter, bomber, and reconnaissance squadrons stood by in the vicinity, so that they could be summoned into action by radio telephone whenever and wherever it might be necessary.

This method of operation functioned more and more smoothly as the days passed. It also served to strengthen the confidence of the troops in the efficacy of carefully coordinated operations. Day by day we moved closer to the passes which were our goal."

Then occurred a pause in operations. The Valencia government had ordered General Miaja to undertake an attack to relieve his forces at Madrid. Miaja was against the idea, but had no choice but to obey. As a result, Franco was forced to send a part of his air units to the Madrid front. Miaja's attack against the well-established positions of the Nationalists on the Manzanares and in the Casa del Campo was inadequately prepared. It was not a success, and only caused the enemy serious losses.

On 22 April, the offensive against Bilbao was resumed. During this second phase, the outer defensive line was attacked from the south and from the east and was taken by the Nationalists. After this Mola's troops had the difficult task of working their way across the mountainous terrain to the iron belt around the city. This was a wearisome and time-consuming undertaking, since the defenders offered stubborn resistance all the way. The advance was carried out very systematically, each captured position being fortified and secured and new forces brought up along the mountain paths before the next assault was launched. The lesson of Guadalajara had been well learned.

Generaloberst Jaenacke continues: "At this time, in the company of General Sperrle, I was given a direct and exceedingly interesting glimpse of the fighting. We had driven by car into the area west of San Sebastian, where an attack by the Italian divisions was slated for the following day, and had spent the night in the Grand Hotel near Deva. Here, on the coast, lies the famous mountain known

91 - a

136

as the "Mouse of Getharia". The morning aerial reconnaissance patrol had reported that the Reds had abandoned all their prepared positions in the mountains in order to escape being cut off from their rear-area communications lines. Under these circumstances, it was perfectly pointless to carry out the

bombardment attack planned to soften the positions for the later assault. I was then present at the conversation between General Sperrle and the Italian commanders, when Sperrle suggested that the bombs and the ground and antiaircraft artillery ammunition should be saved for a later opportunity. The Italians refused point-blank to consider Sperrle's suggestion. They explained that it would strengthen the self-confidence of their troops to let them capture a few abandoned enemy positions. And this is exactly what happened! All that valuable ammunition was completely wasted. Triumphant, the Italians brought back some of the weapons and equipment abandoned by the Reds, and these were sent with a special deputation to Rome in order to pacify Mussolini, who was still furious about the Guadalajara affair.

Shortly afterwards, the bombardment and destruction of the national shrine of the Basques in Guernica took place, an affair which was magnified to the proportions of a heinous crime by the world press. The city of Guernica lies at the very end of a deeply cut fjord; and here there was a bridge, strategically important since it was the only line of communications between the southern positions of the Red troops and their hinterland. The destruction of this bridge was the primary objective of the whole day's operations. The Condor Legion had sent its bombers up to attack the bridge singly, and as soon as the bombs began to fall, the population immediately evacuated the city and fled to the hills. Then the following misfortune came to pass: The city of Guernica lies in a region rich in forests and thus its houses, to a far greater extent than in the rest of Spain, are built of wood. Not only the Germans, but also the Italians had been ordered to bombard the bridge, but the Italians had a different method of bombardment than the Germans. Instead of flying singly, they flew in squadron formation and, at a signal from the squadron leader, dropped their entire bomb load simultaneously. As a result, a good many of the bombs landed wide of their target, right in the middle of the abandoned town. Since there was no one left to put out the fires, a large part of the town went up in flames. The newspapers of the world

92 - a

138

vied with one another in condemning the German Huns and their love of destruction.
In reality we weren't the guilty ones at all, but had to suffer innocently for
what the Italians had done.

The national relic in the Basque shrine at Guernica was the ancient trunk of an oak tree. The trunk itself had crumbled to dust throughout the centuries, and all that was left was the concrete shell which was supposed to hold it together. This relic was not even hit during the bombardment, but was preserved in its original state. All newspaper accounts to the contrary are untrue. I myself had two Basque flags, which Basque company leaders had turned over to me when they had to flee in haste; in the meantime they were destroyed, like so much else, when my apartment in Berlin was bombed. In any case they showed the red oak trunk of Guernica against a white silk background framed in green.

During the next few days the Italians got into trouble once more. Naturally the Spaniards who happened to be fighting near them publicized the incident for all it was worth and spread the news of it far and wide. An Italian brigade marching along the coast highway in a long, narrow column was suddenly attacked from the flank by rifle fire from a Red patrol. The result was immediate panic, since the Italians had neglected to provide cover of any kind for their flanks, and when a Red patrol boat then began to fire on them from the sea, they lost their heads completely and started to yell for help. It would have been much better if they had simply opened fire themselves on the attackers, but this idea apparently never occurred to the courageous Italians!

By the end of May the Nationalist forces had reached the iron belt surrounding Bilbao and had also captured those mountain ridges which the enemy had not included in his defense line. Now the main attack, the assault on a fortifications line which was regarded as impregnable, could begin. It was prepared with great care down to the smallest detail. The troops were given time to rest, supplies were issued, and the units brought up to strength. All the necessary equipment, especially heavy artillery, was brought forward, often under great difficulties. During all this time, the Basques remained completely inactive, apparently confident that the Nationalist assault would be shattered by their concrete fortifications.

On 3 June, before preparations for the attack were quite finished, General Mola was killed. His aircraft, piloted at full speed despite extremely poor visibility, crashed into a mountain, killing all passengers instantly. His loss was a serious blow for Franco in particular. He was replaced by General Davila.

On 11 June the assault against the iron belt began. The two arms of the right angle opening towards the east had been selected as breakthrough points on the Basque defense line. The breakthrough on the outer line succeeded. For a vivid account of the stubborn fighting which ensued during the following days, let us turn to the following excerpts from the diary of Captain von dem Planitz, the driver of one of the German tanks: 'It's the 17th of June 1937. The infantry is deployed for a last, decisive assault on Bilbao. Our tanks are supposed to help the infantry to force a breakthrough between San Roque and San Domingo. The tanks are out in front. There's the body of a dead Spanish lieutenant, a Nationalist, stretched out along the road, an expression of cynical heroism on his grey-brown, bloodless face.

Now we can already see the first fortifications ahead. Most of them aren't quite finished; the bare iron struts of the concrete emplacements are sticking up into the air. There's no movement whatsoever on the enemy side. But we know that those "Mineros", the mine workers, have nerves of iron. We've moved up to within 650 feet of the enemy positions and have sent our steel greeting cards into the dark embrasures and look-out holes. Wherever we score a hit, a cloud of whitish dust flies up and covers the holes for a few seconds. Right ahead of me is that plucky Spanish captain. Every once in a while he even opens ~~his~~ the hatch of his tank in order to get a better look. I aim a couple of shots over his turrets in order to warn him to be more careful. This method of conversation has become quite popular. A fine boy, that captain! He was killed at Zaragoza, three months later.

Suddenly all Hell breaks loose! I can see the detonations over the tank of the Spanish captain ahead of me. It's hand grenades, dozens of them, and in the next minute my own tank is covered with them. At the same time, short-range machine-gun fire hammers at the armor plating of our tanks. They're aiming at our look-out slots again, and at such short range it's really not hard to hit them even if they fire blind. It sounds as if hail were pounding down on a tin roof. Suddenly we're in the midst of hand to hand combat such as we've never experienced before. The Basques are standing up behind the parapets and throwing hand grenades at us, especially at the tank tracks, as fast as they can. Others take time to aim long, carefully, and with unbelievably iron nerves, at the vulnerable points of our tanks. Still others are spurring their comrades on with wild gestures and hoarse shouts. The moment they appear out of cover, they are swept down by our guns. I see the Spanish captain suddenly turn back. As I found out after the battle, he had opened the hatch of his tank for just a split second and had caught a bullet in the arm.

The almost perverse disregard of death displayed by the Mineros is uncanny. Again and again they appear just fifty to sixty feet in front of our tanks and, naturally, at this range, are mowed down by our guns the minute they appear, the cone of fire often hurling them backwards.

Unfortunately the Basque positions are located on a steep pedestal about five feet high so that we can't roll over them or climb up to them from the side. So the fighting goes on until evening, when the enemy, afraid that he may be cut off from his line of retreat, abandons his positions. All the hittable parts of my tank have been hit; there's hardly any paint left on it. Late in the evening, the infantry troops move into the last positions before Bilbao. We can't see the city any longer;

142

95 - a

it's too dark, and Bilbao lies hidden in blackness. Tomorrow it will be in our hands.'

And the Nationalist forces did, in fact, reach the suburbs on 18 June, and on the 19th they moved into the center of the city, which had been evacuated by the enemy. The offensive against the Basque capital had lasted nearly three months. Since the Nationalist attack had come from the east, there was no chance of destroying the Basque armies, the majority of which were able to escape towards the west. They owed their successful retreat to the desperate stand taken by the Mineros during the last battle just described above.

Prior to the capture of Bilbao, the following incident happened to five members of the Condor Legion. Five pilots, all of them officers, confused by the usual inadequate markings along the front, drove over the Red front line and were arrested. They were immediately sentenced to death in Bilbao as war criminals, and it was announced over the radio that they would be executed the following morning. The Condor Legion replied to this announcement with the statement that the Basque government would have reason to regret it if the sentence were carried out as planned, for in that case the Condor Legion would bombard the city of Bilbao in retaliation. At the same time Privy Councilor (Geheimrat) Dumont, of the German Foreign Office, the liaison officer of the Special Staff W, got in touch with his friend, French Ambassador Herbette. Thanks to Herbette's intervention, the government in Bilbao was persuaded to announce that the executions had been put off. Finally, after a term in prison, the five officers were returned to the Condor Legion via France, their heads shaven to indicate their status as criminals.

VIII. The Interlude Represented by the Battle of Brunete (July 1937)

(See the map in Appendix 4)

The offensive along the northern coast was to be continued without delay. The next target was the city of Santander. All the preparations had been made and the troops were just about to set out along the routes assigned to them when suddenly a threat was reported from another quarter, a threat which could very well turn into a catastrophe.

The time was well-chosen. While Franco's main armies and nearly all his air forces were still occupied in the north, General Miaja launched a new offensive at Madrid. This time, however, the operation was his own idea; it had been planned with care and launched with skill. Its purpose was nothing more or less than to free the Spanish capital of the Nationalist forces besieging it.

The winding front line of the Nationalists, established at the conclusion of the last assault on Madrid, ran pretty exactly from west to east south of the Escorial, then dipped towards the south and, keeping close to the outskirts of the city, followed the course of the Manzanares south into the area around Toledo. It was against the east-west stretch running south of the Escorial that Miaja launched his breakthrough assault. The attacking force was to push forward via Brunete as far as Navalcarnero and seize the highway coming from Estremadura, the same highway along which Franco and his African forces had marched on Madrid. If Miaja succeeded in occupying the highway, then all the Nationalist troops stationed along the Manzanares would be cut off and the Nationalist front before Madrid would be bound to collapse.

Miaja quietly assembled his assault force south of the Escorial. During the night of 5/6 July they advanced in a surprise attack, without any preparatory artillery fire, on the Nationalist front and managed to break through. Miaja's infantry was supported during the attack by a large number of heavy and light tanks of Russian origin

as well as by some out-of-date Renault tanks armed with 37 mm turret cannon. This was the same old Renault model, of which the French still had some 3,000 and which they were continually doctoring up with various improvements. At first the tank had been unsatisfactory because its armor plating was too easily pierced, and then the new armor plating was so heavy that a stronger engine had to be installed. The French were anxious to save money and for this reason they began World War II with this same old doctored-up model from World War I; needless to say, the results were disastrous.

To get back to Spain -- at this particular time, the Red air units enjoyed uncontested air superiority over the Madrid area and were thus in a position to take full advantage of the surprise of the Nationalist forces.

The Red thrust moved forward rapidly, and the Reds advanced past Brunete to a point not far from Navalcarnero. The Nationalist front was completely shattered on this sector. A deep, wedge-shaped gap had opened up and was growing wider and wider. General Varela, who was in charge of operations at Madrid, threw all available troops into action in an attempt to stop the enemy advance. Both sides fought stubbornly, and the battle raged around the town of Brunete and further to the south. General Miaja was fully aware of what a victory would mean for him, and he spared no effort to reach the Estremadura highway. Once he reached it, everything would be won and Madrid would be free. His strong air units, consisting of about thirty Russian Martin bombers and sixty modern fighter aircraft (single-seater Curtiss' and Ratas), swooped back and forth over the Nationalist line, plastering it with bombs and machine-gun fire. It seemed that only one last effort was needed to bring Miaja's forces into the rear area of the besiegers, and once this had happened, the collapse of the Nationalist front was automatic.

Franco broke off the advance to Santander immediately. All the units of the Condor Legion and several brigades from the Navarre Corps were ordered into the Madrid area without delay.

The German air units and antiaircraft artillery batteries got there just in time. With the help of two Italian fighter groups, they managed to subdue the enemy air forces in what was the most stubbornly fought air battle in the entire Spanish Civil War. Miaja's attack was finally brought to a standstill on 12 July 1937.

But the situation still remained critical enough. Miaja's forward wedge was still dangerously close to the Nationalist line of communication (the Estremadura highway) and too close for comfort to the rear of the front along the Manzanares. Things could not be permitted to remain this way. Franco's plan was to close the breakthrough gap and to regain the former Nationalist positions. Utilizing the reinforcements which had arrived in the meantime, Franco went over to the offensive, and on 18 July the battle of Brunete was resumed with the same stubborn ardor which had characterized its first phase. Franco's attack was unsuccessful at first. The Nationalist forces had not yet recaptured the smooth coordination among air units, artillery, and infantry which they had achieved during the fighting at Bilbao. General Miaja was holding a strong force in readiness behind his forward line in the hope that a renewed attack might yet bring him to his goal.

On 24 July Franco took command of the fighting personally. After thorough preparation by artillery fire and bombardment, Franco's infantry stormed the enemy positions, but was repulsed. On 25 July the assault was repeated with the concentrated commitment of all ground and air units. This time the attack was directed against Miaja's reserves, assembled in the narrow valleys waiting to be called into action. Flying over the valleys three times, German, Spanish, and Italian air units dropped a hail of bombs on them. At the same time all the available artillery batteries, including the five German heavy antiaircraft batteries, concentrated their fire on the closely packed troops. Suddenly, the enemy's will to resist collapsed; the Reds abandoned their positions and retreated in panic. The German fighter aircraft pursued the fleeing enemy columns with machine-gun fire and bombs and frustrated every attempt they made to reform and dig in.

Thus the battle was decided in favor of Franco. To be sure, General Miaja's forces still occupied a small wedge extending into the Nationalist line, but it no longer represented a threat. Miaja's forces had suffered exceedingly heavy losses; he himself estimated them at approximately 30,000 men.

Miaja's armies were so weakened by the battle of Brunete, that he was never again able to repeat his attempt to free the city of Madrid of its beleaguerers. From this point on there were no more important battles around the capital.

It is quite possible that, in winning the battle of Brunete, Franco won the entire Civil War without being aware of it.

In any case the entire Condor Legion -- the air units, the antiaircraft artillery forces, and all the rest -- can claim for itself the inner satisfaction and the pride of knowing that its role in this battle was a decisive one.

Incidentally, even in future the battlefield of Brunete and the problem of concentrating in a relatively limited area sufficiently strong forces to decide a battle will remain a classic example of the dangers inherent in this type of operation -- provided one disregards the possibility of nuclear weapons - or has them oneself.

IX. The Conclusion of the Fighting on the Northern Front (August - 21 October 1937)

(See the map in Appendix 5)

It was characteristic of the conduct of operations during the Spanish Civil War that the Nationalist commanders let themselves be too easily diverted from a previously determined course by all sorts of intervening events and the changes in the military situation which they brought about. In this connection, General Sperrle and his chief of staff, Freiherr von Richthofen, deserve a great deal of credit for the determination and persuasiveness with which they brought their Spanish comrades back to the task at hand.

This was particularly true in connection with Nationalist operations in the mountainous terrain of Asturia. Here, even Franco

has the reputation of being willing to stop prematurely and to be content with the gains already made. Sperrle and von Richthofen, on the other hand, were determined to carry on to the end, and in the Navarre Corps -- particularly in the person of General Vigo -- they found soldiers after their own heart. This triumvirate -- Sperrle, von Richthofen, Vigo -- really deserves the credit for the ultimate victory of the Nationalists in the north.

Franco was now free to continue the conquest of Asturias. By 14 August 1937 his troops were deployed before the well-fortified enemy positions near Santander. The main assault was to come from the south, across the Cantabrian Mountains, the assault force then spreading out towards the west so that the enemy forces could not escape, as they had at Bilbao, but would be cut off from retreat. And this is exactly what happened. The Navarre Corps and the Italian Legion advanced over the high mountain passes and broke through the enemy positions. On 25 August the Navarre brigades on the outermost left wing reached the coast near Torrelavega, west of Santander, thus cutting off the enemy's avenue of retreat towards the west. All the enemy positions lying east of Torrelavega were forced to surrender. The Nationalists took 70,000 prisoners, including a large part of the Basque army which had escaped at Bilbao, and captured all their war materiel. On 26 August, the Nationalist troops marched into Santander, where they were greeted enthusiastically by the populace. Pro-Nationalist elements in the city had revolted the day before and had seized power, thus preventing the Reds from putting into effect their plan to loot the city and set it on fire at the last moment.

Once again General Miaja, whom the Valencia government had now placed in command of all the government troops, made an attempt to check Franco.

It was rumored in Spain that General Miaja had been forced by the Anarchists to fight on their side because they held his wife and children as hostages. It was added, though, that perhaps he had come to prefer that side in the meantime.

In any case, Miaja's conduct of operations at Brunete revealed his thorough understanding of strategy and of the art of putting pressure on the proper point.

148

101

Luck and the Condor Legion were against him. His last attempt, at Zaragoza, also reflected his strategic farsightedness and perhaps also the fact that he realized very well that he would be defeated for good if he did not succeed in breaking through the Nationalist lines.

For his last breakthrough attempt, Miaja selected the front near Zaragoza, in Aragon, where there had been very little fighting so far. For this reason the front was being held by a relatively weak Nationalist force. As a matter of fact the capture of Zaragoza would have given General Miaja a definite strategic advantage, for it would have divided the Nationalist front in two. General Pozas, Miaja's predecessor in Madrid, was appointed to lead the offensive and was assigned a force of 50,000 men. He planned to break through on either side of Zaragoza and then to surround the city from the north and south. He launched his attack on 24 August, thus prior to the capture of Santander, and succeeded in driving a sixteen-mile wedge through a broad sector of the Nationalist front near Belchite, southeast of Zaragoza. Once again the situation became critical for the Nationalists. Elements of the Condor Legion were dispatched from Asturia to take part in the action at Belchite, while ground troops were brought from Madrid by railway. The enemy thrust slackened and finally came to a standstill. General Pozas' only tangible gain was a piece of territory which had absolutely no strategic significance and which no one objected to his keeping. Peace and quiet had been restored on the Zaragoza front by 10 September 1937.

On 4 September, Franco had resumed the offensive in Asturia. According to General Sperrle, the heroic and fanatic resistance offered by the Asturians in an area characterized by high mountains and a very poor network of roads proved an almost insoluble problem for the Navarre Corps. The tides of the Bay of Biscay penetrated far into the deeply-cut river valleys. Steep canyons, spanned by fragile bridges which could be easily destroyed by the enemy, barred the way of the advancing Navarre brigades. Operations had to be carried out through eight weeks of combat in the mountains, sometimes along ridges 6,500 feet high. None

of Spain's conquerors, neither the Romans, the Arabs, nor Napoleon, had even subdued these mountains. But the troops of the Navarre Corps, with the aid of the air units and antiaircraft artillery of the Condor Legion, succeeded. General Aranda, whose forces had been trapped in Oviedo by the Asturians since the beginning of the rebellion, was freed, and joined the attack, his troops attacking from the south and the west. Finally, on 21 October 1937, the Nationalists captured the enemy's last stronghold, the seaport city of Gijon. The Red leaders escaped in boats from the harbor and were picked up by French ships outside the three-mile limit.

The northern front no longer existed. All of Asturia was in Nationalist hands. To be sure, its capture had taken the better part of the year 1937.

X. The Situation after the Conclusion of the Fighting on the Northern Front: Strategic Deliberations and Decisions

The Political and Military Situations

With the conquest of all of northern Spain along the Bay of Biscay, the political and military situations had clearly undergone a change in Franco's favor. The two-front war was at an end. And what this meant can probably be best understood by those unfortunate Germans who were forced to fight two world wars on two fronts, the last, in fact, on a number of fronts, thanks to the shortsightedness and arrogance of Hitler.

Now having achieved an important victory, Franco had the opportunity to build on his initial success and to make his preparations for the ultimate victory.

The Condor Legion

The members of the German Condor Legion had made a valuable contribution to the Nationalist victory. The conversion to modern aircraft models, begun right after the battle of Brunete,

was beginning to bear fruit. From this point on, the struggle for air superiority was clearly decided in favor of Franco's air forces, which had been built up with German help, and they continued to maintain their superiority through the final victory which brought the Spanish Civil War to an end.

General Sperrle's successor as commander of the Condor Legion was General-leutenant Helmuth Volkmann. General Volkmann was later killed in action during the campaign in France, during which he served as division commander. His chief of staff in Spain was Lieutenant Colonel Hermann Plocher. Both men were soon given ample opportunity to prove themselves in the fighting at Teruel, Zaragoza, and the bend in the Ebro River, as well as in the preparations for the last offensive against Catalonia.

By the time the conversion to new models had been completed, the Condor Legion had at its disposal the most modern and most effective equipment which its homeland could provide:

The bomber group consisted ~~far~~ of four squadrons of He-111's; the fighter group had two squadrons of Me-109's and two of He-51's.

The aerial reconnaissance squadron had four flights of Do-17's (one flight of long-range reconnaissance aircraft and three flights of light bombers) and one flight of He-45's.

The naval air squadron, based at Mallorca, was equipped with He-59's, the number of which varied during the course of operations.

The antiaircraft artillery batteries were equipped as follows: five heavy batteries with 88 mm guns, two light batteries with 20 mm guns, plus one platoon of 37 mm guns, one searchlight platoon, and one light column.

The signal communications battalion was composed of one radio company, one telephone company, one air traffic control company, one aircraft reporting company. One signal communications group was stationed at Salamanca, one at Seville, one at Burgos, and one on the island of Mallorca.

Reinforcements for the Italian Air Force

103 - a

151

On the basis of the experience they had gathered so far, the Italians -- with the support of Il Duce in Rome, had managed to have their air units in Spain increased to double strength. They had set up an air war staff of their own, which soon went into action.

They now had three bomber groups, consisting of three squadrons each, all equipped with the most modern machines, three fighter groups, also composed of three squadrons each, and a light bomber group with thirty aircraft. All together, this meant an impressive total of approximately 190 aircraft, far more than the Condor Legion had at its disposal. The Spanish, with German and Italian help (in the form of both materiel and training services), had set up an air brigade of their own, composed of a bomber group equipped with German Ju-52's and Italian Savoyas, two close-support squadrons equipped with He-51's, an aerial reconnaissance and light bomber group equipped with German He-45's and He-70's, and one fighter group equipped with Italian Fiats. Both the Italians and the Spanish had their own antiaircraft artillery batteries. Although coordination among the German, Spanish, and Italian air war staffs was often somewhat of a problem, the increase in air strength was extremely welcome.

The Spanish had taken to heart the lessons of previous operations, during which the lack of light and heavy artillery had caused a good deal of trouble. The Italians offered to help out in case the Spanish should not be able to make up the necessary batteries on their own. During the operations at Bilbao and Santander, the Nationalists had had to be content with only 120 artillery pieces to carry out the task of preparing the targets for the main attack; now, they had approximately 400 artillery pieces of all calibers at their disposal for the last decision-seeking battle -- a total which was considered extraordinarily high in view of the conditions under which the Spanish Civil War was fought.

New Strategic Considerations

There was no doubt that the Nationalist cause had won a significant victory as a result of the collapse of the front in northern Spain, a victory which meant even more than the bare facts would seem to justify. There would be no more critical periods, such as the ones following the operations on the Jarama and at Guadalajara, for the Nationalist forces. Nor did it seem likely that they would have to interrupt their operations again, as they had had to do be-

cause of the Brunete episode. In direct proportion to the need of the Reds to look for help to their supporters abroad, the desire of these supporters in London and Paris to identify themselves with the Red cause in Spain was becoming less and less eager. They were gradually abandoning the line that Red Spain represented the legal government of the country, which ought to be defended against the rebels, and were beginning to look surreptitiously to ways to call their change of heart to Franco's attention. They dispatched observers and agents to Spain, whose real task was to sound out the situation and to prepare the ground.

But these efforts concealed a new danger which could not be disregarded. In Burgos, playing the role of disinterested and benevolent observers, these agents used every channel at their disposal to implant the idea that it was much better to strive for a peaceful conclusion of the war than to continue it ad infinitum, since, after all, it was imposing great sacrifices on the country. They gave to understand that their employers were aware of the political atmosphere in Valencia and Barcelona and that an agreement could be reached if Nationalist leaders in Burgos would only be sensible and follow the good advice of Paris and London. They hinted, for example, that Catalonia, with its capital of Barcelona, would certainly be willing to abandon the Red cause if Franco would direct his coming offensive against Madrid rather than Catalonia; if he insisted on sticking to his plan to attack Catalonia, the result was bound to be a sharp increase in resistance in that province. Thus they pointed out that the far easier victory in Madrid would be the shortest path to success and to ultimate peace, whereas an attack on Catalonia would be full of danger because it would be bound to stir up public opinion and resistance in France.

Fortunately for Nationalist Spain, all these insinuations failed in their purpose, since Nationalist leaders had recognized that they had to end the war with an independent and genuine victory if the subsequent peace was to be a firm and lasting one. Thus preparations for the last offensive continued without interruption, although there was some disagreement as to which

sector of the front ought to be selected for the last decisive battle.

Without doubt, an operation moving along both banks of the Ebro River from the Zaragoza area towards Catalonia and the coast of the Mediterranean offered the best prospects of military success. Due to the shift in the focal point of military operations, Madrid had lost its former significance, and the previous slogan to the effect that whoever possessed Madrid was bound to win the war was no longer heard. Instead, if the Nationalists could manage to cut off all communication between Valencia and Barcelona, the two centers from which the Reds conducted operations, the victory would clearly be theirs. The more important of the two cities was undoubtedly Barcelona, which was not only the intellectual and moral center of Red resistance, but also -- thanks to Catalonia's unrestricted contact with France, her war industries, and her wealth -- a vital source of war materiel for the Reds. If the Nationalists could succeed in capturing Catalonia, they would reduce the number of Red-held seaports to such a small number that they would be able to cut off imports from abroad even without the authority to stop neutral ships. And this, in turn, would be sufficient to bring the Red operations to an end.

The Deliberations of the Reds and the Measures They Took

The Reds themselves had to admit the logic of the considerations detailed above. The break in hostilities found them feverishly active. But the moment they felt reassured in their expectation that Franco intended to attack Catalonia, rumors came to their attention to the effect that he was going to attack the Madrid sector after all. This uncertainty seriously disrupted their defense preparations at Zaragoza and forced them to deploy their troops in such a way that they could be thrown into action at either Zaragoza or Madrid. This was the reason for the concentration of such a strong Red force in the area of Teruel. Lying southwest of Zaragoza and almost due east of Madrid, Teruel represented the meeting point of the two arms (i.e. Zaragoza and Madrid) of the Nationalist front. During December 1937 and January 1938, the Reds made a virtue out of necessity and stationed their troops at Teruel to meet a Nationalist attack which failed to materialize, either

at Madrid or at Zaragoza.

In the meantime Franco had evolved another plan. During the first days of November 1937, after the final operations in Asturia had come to an end, the new commander and chief of staff of the Condor Legion had their first conferences with the staff of the Italian Legion and with Franco's operations staff concerning the objective and scope of the new offensive against Catalonia. All were in agreement that the focal point of the attack ought to be directed against the area between Zaragoza and the Pyrenees and that the Nationalist advance ought to follow the Pyrenees to the Segre sector. The Nationalists could count upon about ten divisions and -- even more important, considering the rather special character of the operations in Spain -- would be operating with a substantially stronger air force than ever before.

Nevertheless, Franco decided to put the following operational plan into effect: Towards the end of November he ordered that all preparations for the attack against Catalonia be discontinued. Instead he intended to seek a decision in the area northeast of Madrid, on the southern edge of the Guadarrama range and along the upper course of the Jarama, Herarez, Tajuna, and Tajo Rivers, about at the point where the four rivers leave the foothills to begin their journey to the capital. The offensive was to be launched around the middle of December and was to be carried out by a force consisting of the Italian Corps, in the center, and two Spanish corps, forming the wings.

The staff headquarters of the Condor Legion had been moved to Almazan, along the upper course of the Duero River, north of the Guadarrama range. The bomber squadrons, half the fighter units, and the reconnaissance squadron were stationed at the airfield of El Burgo de Osma, while the rest of the fighter units were at Torresavina. The antiaircraft artillery forces were distributed among Almazan, El Burgo, and Zaragoza. Thus, the Legion, too, was prepared to operate either in Zaragoza or in Madrid, whichever might prove necessary, although the accommodations

107 - a

156

provided for its forces were fairly makeshift. There were no troops available for a larger-scale deceptive maneuver on the Zaragoza front.

All the divisions were needed for the main attack on Madrid. Thus the deceptive maneuver had to be accomplished by the united German, Italian, and Spanish air units alone. Their attack could be directed only against the Red air forces assembled behind the Red front line in Aragon. These forces were estimated at about one hundred aircraft, distributed among the airfields southeast of Zaragoza along both sides of the Ebro. The Nationalist forces comprised sixteen bomber squadrons and thirteen fighter squadrons, almost all of them equipped with modern aircraft models -- a total of approximately 250 aircraft in all. The Italian air staff was entrusted with the preparations for and the accomplishment of the joint attack.

This Nationalist air offensive on the Zaragoza front, unusual for operations in Spain in view of its scope and concentration of forces, lasted for three days. It was a difficult undertaking for a number of reasons -- the problems created by the need to issue commands to three separate participating forces, the large number of small, and in fact exceedingly small airfields among which the Red aircraft had been skillfully dispersed, and above all the long approach route of the attacking units, which made it almost impossible for them to coordinate their activity over the target. The Nationalist fighter units could afford to remain over the target for only a short time, due to inadequate fueling capacity.

Despite the tremendous expenditure of effort and materiel on both sides, the three-day battle between the opposing air forces failed to bring conclusive victory to either side. The Reds had demonstrated a certain degree of reserve, which led one to wonder what might be behind it.

In the meantime the Spanish and Italian divisions had already moved into position in the assembly area located in the curve of the Madrid front, and since the attack on the capital had finally been set for 18 December, the Spanish and Italian air units hastened to assume their assigned stations. The squadrons of the Condor Legion remained at their former airfields, which had been selected with a view to permitting employment at whichever front should be selected.

By 15 December, deployment of the Nationalist forces for the decision-

108 - a

157

seeking offensive was to be complete. The battle was to begin on 18 December.

On the evening of 16 December, Nationalists were suddenly confronted with
an entirely new situation,

a situation which had been regarded as impossible by Franco and his staff since the Nationalist victory in Asturia.

XI. The Battle of Teruel (Winter 1937/1938)

(See the map in Appendix 6)

Coming from Zaragoza, when one reaches Daroca, with its towering Moorish fortifications, and then turns south to Calamocha, following the highway, the railway, and the course of the Cella River, one soon catches sight -- to the left -- of the Sierra Palomera range, some of whose peaks rise to a height of 5,000 feet; to the right, in the distance, one sees the Sierra de Albarracin mountains, almost as high as the Palomera range; the Tajo River, which flows by south of Madrid, has its origin in the latter range. Between these two mountain ranges, there is a valley running from north to south; although it varies in breadth, on the average it is about 11,000 yards wide. The mountains are barren, as is the case almost everywhere in Spain. The valley is fertile as far as Cella, where it widens into a high plateau. On the southern edge of this plateau, built on a cone-shaped hill, lies the mountain city of Teruel, at the point where the Alfambra and Guadalaviar (or Turia) Rivers meet and the Turia leaves the mountains to begin its torturous way to the sea near Valencia. The railway and highway of Teruel do not follow the course of the Turia, but break through and cross the mountains southwest of the city and reach the coast in the vicinity of Sagunto.

Teruel lies on a hill which rises out of the middle of a high plateau bordered by mountains on the south, east, and west; the highest mountains, and those located nearest the city, lie in the southeast. There are no mountains to cut off the plateau at the northern edge -- where it gradually turns into the valley of the Cella.

Ever since the beginning of the Spanish Civil War, the front line had followed the mountains situated ~~ed~~ west, south, and east of Teruel so that the city itself, on its high hill, was really at the end of a peninsula extending into Red territory.

109 - a

160

tory. Thus the only communications lines from the city to the Nationalist territory led across the plateau towards the north and through the Cella valley.

161

And for its entire length of some thirty miles, this channel of communication could be watched and dominated by the enemy on either side of it. This situation was unique enough during the more quiet phases of the war; it is almost unbelievable that this narrow peninsula was the scene of one of the more terrible and one of the longest battles of the entire war. Anyone wishing to form an objective picture of the origin and course of this battle, as well as of the strategic considerations lying behind it, must divest himself completely of any military principles he may have acquired during World War I or during his studies at the war colleges of other countries. Above all, he must realize that the fighting in Spain was always concentrated around a specific target -- a hill, a city or village, a forest, or a bridge -- and that an assault from the flank or a relief maneuver on a secondary sector were extremely unusual actions, of the usefulness of which the Spaniards refused to be convinced.

In connection with the battle of Teruel, there are two fundamental questions which can probably never be answered. The first of these is just why the Reds chose Teruel for the scene of their relief offensive against the Nationalists -- for the capture of this projecting corner of the front had no strategic value for them whatsoever--, and the second just why the Nationalists lost the initiative as a result of Teruel, an initiative which they were unable to regain until three months later. As far as the Reds were concerned, their plan was presumably influenced by the fact the capture of the Teruel "peninsula" would provide them with a better and quicker channel of communications between their Aragon and Madrid fronts. As for the Nationalists, it seems clear that they were influenced, as in the case of the battle of Brunete, by their conviction that it was bad for morale to let the Reds enjoy even temporary success. These two motivations, however, are hardly adequate answers to the questions posed above. Perhaps we shall come closer to the answer if we stop to consider the Spanish character, which regards it as a matter of course to meet the enemy at the point where he attacks and finds it unnecessary and not quite honorable to avoid him by attacking somewhere else.

110 - a

162

Prior to this time there had been hardly any action at all in the mountains around Teruel. There was no artillery whatsoever stationed there. Every once in a while, an aircraft might appear in the sky --

163

111

there was no way of telling whether Red or Nationalist. The city had a garrison of approximately 2,000 troops and there were a few makeshift dugouts and trenches in the surrounding hills. No one had the slightest intention of changing this peaceful situation, least of all in December, when the Spanish winter is bitterly cold in the mountains. During this particular December, it began to snow more heavily than the oldest inhabitants could recall its having done before.

During the night of 15/16 December, completely without warning, Red infantry forces overran the Nationalist positions east and west of the city and made contact north of Teruel, on the road leading to Calamocha. In the morning it was discovered that the 2,000-man garrison was trapped in the city, its only channel of communication to the outside world the short-wave transmitter connecting the garrison with Zaragoza. When the Nationalists outside the city realized the situation and launched a counterattack, unusually heavy fighting ensued, which made it obvious that the Reds had deployed an impressively large force in the Teruel area.

By evening, after a day of futile counterattacks, the Nationalists realized that they were up against the two very best international brigades (Lister and Campesino) which the Reds had at their disposal. Both brigades were equipped with a good many tanks. The Red air forces also appeared over the sector, but were prevented by snow flurries from accomplishing very much. The temperature was 14° (F.), and the troops, not properly dressed for winter weather, suffered severely from cold when they were ordered out of their billets.

Franco's Counterattack

On 16 December, the day following the Red breakthrough, General Franco ordered a counterattack to be carried out by seventeen battalions under the command of General Aranda. The purpose of the attack was to ~~maxim~~ restore the Nationalist line to its former status. On the same day he ordered that General Varela, assigned to the sector along the upper course of the Tajo, should release two divisions

111 - a

for the Teruel sector. Thus, without further ado, the fate of the Nationalist offensive against Madrid, scheduled for 18 December, was decided.

104

The Italians released most of their artillery for employment at Teruel. The Condor Legion, still convinced that the best and most effective relief action for Teruel was the accomplishment of the contemplated attack on Madrid, assigned only two heavy antiaircraft artillery batteries to the Teruel front. By 17 December, however, even the Condor Legion had to resign itself to the fact that the initiative, at least for the moment, was firmly in Red hands.

The pessimistic mood of the Legion staff was intensified by the events of 17 December. On the morning of the 17th, the Legion commander ordered an attack on the Teruel area by a force of twenty-three He-111's of the bomber group. During their approach flight the weather became so impossible that the force had to deviate to the south, where it was caught by Red fighters and antiaircraft artillery. For a period of several hours, seven aircraft were believed to be missing in action, but by evening all but one had reported their position. Some had landed at Avila, some at Escalona, and some at Talavera. All in all, it had been a hard day for the German bomber squadrons.

In the meantime, on the plateau north of Teruel -- in defiance of the wintry cold and the heavy snows -- a battle of attrition had begun, a battle in which both sides constantly committed new forces, although the strategic value of a victory at Teruel was negligible for both. It was a battle which made its own rules as it went along, and the command staffs on both sides had no choice but to follow. From day to day, both sides concentrated more and more artillery in this tightly limited area and vied with one another in furious minor assaults.

For the first time, the air units were relegated to the background for longer periods during the fighting -- the weather was too unfavorable. The ground weapons were employed all the more intensely, to a degree which soon exceeded that experienced at Brunete. Some mornings it was as cold as 5° (F.). The heavy snow restricted almost every battalion to its own station, so that none knew what was happening to the others, but the fewer troops there were on the battlefield, the more embittered the fighting seemed to be. No attempt was made to change this. All

all, the situation remained as it had been on the morning of 16 December, the Reds holding the positions they had captured. The brave garrison in Teruel was still holding out, but since it had very little equipment to fight with, its surrender was only a matter of time. This made the Nationalist leaders all the more anxious to liberate it in time. For the second time during the Spanish Civil War, an encircled garrison of a few thousand men had become the focal point of military operations.

On 22 December, after repeated but futile Nationalist assaults, the Generalísimo called the chief of staff of the Condor Legion to his headquarters and explained to him and to the assembled Spanish generals his plan to put an end to the stop-gap tactics so far employed and to recapture the city of Teruel with a concentrated offensive by two strong corps, no matter how high the cost of such a venture might be. He ordered the establishment of a special army command post under the leadership of General Davila, the Minister of War, and assigned General Vigon to be Davila's chief of staff. General Vigon was the very best officer Franco had available for such a post; moreover he was a good friend of the Condor Legion from the days of its joint operations with the Navarre Corps. Franco ordered the deployment of the corps under General Varela in the west and northwest of Teruel so that it could attack the mountain fortress along the Guadalaviar (Turia), while General Aranda's corps, reinforced by new divisions in the meantime, was to attack the city from the old position north and northeast of Teruel, moving forward across the road leading to Calamocha. The Condor Legion was requested to employ all its forces in the support of General Varela's assault. The Italian air units were assigned the sector entrusted to General Aranda. The Italian artillery forces, in part, had already gone into action, while the rest were on the march to Teruel. Altogether, Franco had some 400 artillery pieces at his disposal.

The Condor Legion immediately transferred all its fighter units to Calamocha, to bring them as close as possible to the scene of action. Two antiaircraft artillery batteries were already there, and a third was on the way together with the

113 - a

167

staff of the antiaircraft artillery commander. The bomber groups and the aerial reconnaissance squadrons remained at their old stations. The Legion staff moved to the barren mountain wilderness of the village of Bronchales. Its headquarters was set up in the farm buildings of La Magdalena, right on the battlefield, where General Varela also had his command post.

The attack of the two corps was set for 29 December, since some of the divisions had a long way to come via the curve of the front near Madrid to the north; their march was further delayed by inclement weather.

Thus there was still time for the Condor Legion to celebrate Christmas in the traditional German manner, despite the sudden change in the military situation, which gave them every reason to be depressed and anxious. It was their second Christmas away from home; they were to spend still a third in Spain before they could return to Germany.

The bloody battle of Teruel went on for nearly a month in its tightly restricted area without bringing about any substantial change in the situation. On 8 January, to be sure, the garrison at Teruel, having held out bravely until then, was forced to surrender. The temperature dropped to 1° (F.), with snow and fog. On 5 February, the Reds made an attempt to cut off the Teruel corridor, overrunning General Yague's newly-arrived Moroccan corps in a surprise attack. Up to 100 tons of bombs were dropped daily, and as soon as the weather cleared a bit the German squadrons carried out countless strafing attacks; cavalry attacks, accompanied by shouting and death-defying courage, were carried out by the Moroccan troops in their colorful uniforms. One must admit that nothing was left untried in an effort to assure a Nationalist victory.

On 7 February the Reds suddenly withdrew from the entire western bank of the Alfambra and also abandoned their positions in the Sierra Palomera, leaving prisoners and construction materials behind. On the same day the German fighter units brought down twelve enemy aircraft; 1/Lieutenant Balthasar alone brought down four Martin bombers.

The attack along the Alfambra had, however, accomplished one thing -- it had widened the Teruel corridor so much that in future there was no more danger that the Red troops fighting along the edges could get around behind Franco's forces.

In the meantime there had been several heated debates as to what ought to be done next. On 9 February, the Legion commander came forth with his first sug-

169

115

gestion, to the effect that the Nationalist forces, the majority of which were already in the Teruel sector or just north of it, be withdrawn further to the north and that the entire Madrid offensive be abandoned in favor of resuming the original plan for an offensive on both sides of the Ebro towards Catalonia. Since he was aware that the Nationalist leaders were not overly enthusiastic about the Catalan attack, he proposed that the new offensive move straight through towards the Mediterranean coast south of the Ebro delta, thus separating Barcelona and Valencia. The suggested plan was an attempt to expand the situation at Teruel, tactically indefensible in any case, into a large-scale strategic operation capable of deciding the outcome of the war. This suggestion should be kept in mind, for when it was put into effect later on it was a complete success. At that time, on 9 February, it was disapproved by the Nationalist leaders, who could see nothing but the ruins of Teruel before them.

Thus, on 17 February, the third concentrated attack on the mountain fortress began, supported by all the German air units. The plan called for General Aranda's corps to cross the Alfambra directly northeast of the city, to proceed along the mountains to the southeast and south of Teruel, and then to launch a frontal attack towards the rear. The German bomber squadrons dropped countless bombs over these targets, and dive bombers were employed for the first time. In the face of heavy enemy defenses, during the afternoon the attacking force advanced some 6,500 feet and managed to get across the Alfambra close to the city, only to come to a standstill at the edge of the mountains. During the night there were new Nationalist assaults, met by enemy counterattacks.

18 and 19 February were marked by a stubborn struggle for the cemetery of Teruel, located on a hill northeast of the city; the German air units also participated. The bodies of the ~~dead~~ fallen mingled with the bones of the dead buried in the churchyard.

The cemetery changed hands several times. But when General Aranda's corps stormed the Mansueto and Santa Barbara peaks, overlooking the city from the

southeast, and planted the unit flags there, the Reds began to give way. They abandoned the cemetery, now covered from above and from the rear by Nationalist troops, and retreated to the ruins of the city. 19 February was the bloodiest day of the battle of Teruel and one of the bloodiest of the entire war. Not for a single moment did the German antiaircraft artillery forces or the air units leave the battlefield in peace, but scattered their shells before the enemy and over the smoking peaks of the mountains. On this day the battalions of General Varela's corps crossed the Guadalaviar west of Teruel and moved forward, in the midst of heavy hand-to-hand combat, towards the rear of the city to make contact with the battalions of General Aranda's corps.

On 20 February the pincers closed around the smoking city, and the bitter struggle for each individual house and each individual narrow street began. The German He-51 squadrons had a direct share in the street fighting with their bombs and machine-gun fire, while the bomber squadrons attacked along the Red retreat route to Sagunto and the fighters brought down seven more Ratas. The struggle for the plains around the fortified city had already begun in the south. The Moroccan cavalry was already on its way down from the hill of Santa Barbara towards the burning city, whose ruined walls were beginning to collapse.

But still the defenders held firm. Hidden in houses, cellars, and alley-ways, they held out for another day, still hoping that the Red counterattacks would succeed. Their will to resist remained unbroken until they realized that the noise of the battle was shifting towards the mountains in the south, until they saw the infantry of General Varela's corps coming down the slope of Muela de Teruel to the Guadalaviar, and until they recognized the sounds of the Moroccan cavalry in their vicinity.

Teruel fell on the evening of 21 February. A thousand Red troops were taken prisoner, and this was only a small fraction of the number who had lost their lives in this furious battle. The bodies of the dead were piled up along the road leading to the cemetery to the town and in every corner of the town itself.

These last three days were a dreadful blow to the Red forces, a blow from which they never recovered. The Lister and Campesino brigades were nearly decimated. The forces which managed to escape across the mountains to Sagunto and Valencia had completely lost their striking power. They arrived exhausted and frightened and spread new terror in the ranks of their comrades, who were being sent out by the truckload to build a new barrier against the liberators.

Nationalist leaders had never intended to make any strategic use of the victory at Teruel. They were still undecided as to whether they should return to the plan for an attack on Madrid or seek the final decision at some other point. The victorious troops -- the three best and strongest corps of the Nationalist army had been committed at Teruel -- urgently needed a rest period in which to recover from the fighting and to make up their losses, which had been heavy.

Teruel had been avenged, and the honor of Nationalist Spain restored.

XII. The Threat to the Mediterranean (24 February 1938 - 10 February 1939)¹⁶

The Operations as Far as the Ebro (See the map in Appendix 7)

On 24 February 1938, three days after the capture of Teruel, General Franco informed the Spanish corps commanders, their chiefs of staff, and the Italian and German commanders of his decision to give up the offensive in the Madrid area and to begin, instead, an offensive to be carried out from the area between Teruel and Zaragoza and to be directed at the Mediterranean coast near Tortosa.

By dint of the full utilization of all available means of transport, the forces which were to comprise the northern army under the command of General Davila were assembled in record time.

The Castilla Corps, under the command of General Varela, took over the assault sector north of Teruel along the Alfambra as far as Perales. Its mission was to tie down the enemy, thereby shielding the advancing attack of the army on the southern flank.

16 - Section XII of the present Chapter is based on the following sources:
Werner Beumelburg, The Struggle for Spain, The Story of the Condor Legion,
Gerhard Stalling Verlagsbuchhandlung, Oldenburg/Berlin (Karlsruhe Document Collection)
Dagobert von Mikusch, Franco Liberates Spain, Wegweiser Verlag, Berlin
(Karlsruhe Document Collection)
Colonel a.D. Freiherr von Beust, Contribution to the present study, Parts A and B (Karlsruhe Document Collection).

The Galicia Corps, under the command of General Aranda, was assigned the mountain city of Montalban as its first target. After capturing the city, it was to move forward along the highway to Alcaniz as far as the Guadalupe River, which flows into the Ebro at Caspe.

General Berti's Italian Corps, deployed directly to the north, was to cross the mountains and advance on Hijar.

The Marroqui Corps, under the command of General Yague, reinforced by the 1st Navarre Division (commanded by General Valino) and a cavalry division, was to carry out the main thrust at the focal point of the attack, a thrust which was to lead it from the area of the Huerva River via Belchite to Azaila and Escatron on the Ebro. If this operation succeeded, the Corps was to proceed along the right bank of the Ebro without delay in order to reach Caspe. Here the Ebro operation was to come to an end.

The Condor Legion (under Generalleutnant Volkmann and chief of staff Lieutenant Colonel (GSC) Plocher) was assigned to the focal point of operations to support the Marroqui Corps and the Navarre Division. The Legion immediately transferred part of its fighter units to the airfield of Sansurjo near Zaragoza, directly behind the assault front. The majority of the bomber units, as well as the reconnaissance squadron, remained at their stations in El Burgo de Osma for the time being.

The antiaircraft artillery forces were assigned to protect the Legion's airfields and also detached a number of their batteries for support operations on the ground.

The Spanish air brigade was entrusted with the support of the Galicia Corps.

The Italian air units were assigned to the sector entrusted to the Italian Corps.

The Reds, even during their attacks at Teruel, had not forgotten the Zaragoza sector. They tried to overcome the period of weakness inevitable after Teruel as rapidly as possible and dispatched reinforcements to Catalonia.

These reinforcements, however, did not arrive in time. The entire Red air force was assembled behind the threatened sector. Nevertheless, the Reds gave no sign of being particularly concerned over developments. Their bombers came over fairly regularly during the night and attacked villages and highway junctions. The Nationalist artillery and fighters left them pretty much alone in order to lull them into a feeling of false security. The Reds were obviously not sure whether the next Nationalist attack would be at Madrid or at Zaragoza and, if the last, whether it would occur north or south of the Ebro.

9 March

Preparations had been concluded so quickly and so thoroughly that 9 March could be set as the starting date of the attack. On the early morning of this day, forces from the 150th Division, employed on the right wing of the Marroqui Corps, crossed the Huerva River near Aguilón without encountering serious enemy resistance and took possession of the hills north of the town. This action deprived the Reds of an important point in their line and eliminated the danger of a future threat to the Nationalist flank.

The attack was scheduled to begin at 0600 hours. But the marching columns behind the front had stirred the dry chalky soil into huge clouds of white and slanting yellowish dust which floated above the military positions and, caught in the light of the rising sun, hid them effectively from view. Thus the attack was postponed for two hours.

At 0800 hours the artillery began its preparatory fire. A few minutes later the bombers and fighters of the Condor Legion were over the enemy lines. The heavy antiaircraft artillery batteries systematically swept over enemy positions and over the roads. After the bombers and dive bombers had bombarded the first enemy position, they returned to their airfields to replenish their ammunition supplies and to refuel and took off again immediately for the enemy positions at Belchite and Azuara. During the course of the day they carried some 155 tons of bombs over the front line. The fighters found little enemy resistance in the air,

and thus were able to concern themselves fairly exclusively with strafing attacks ahead of the Nationalist infantry. In exemplary coordination with the operations of the 150th Division, the fighter forces smoothed the way for the latter, which were the first troops to succeed in the breakthrough.

By 1000 hours the infantry attacks was well under way at all points. The 150th Division, having captured the hill positions near Aguilon, advanced inexorably over the mountains of the Entredicho range and took the highway at a point near Belchite. Accompanied by the German tanks of the Drone Group, its battalions quickly mastered the hills on the other side of Villanueva de la Huerva, overran the Red positions, seized the estates of Fuentetodos, and moved on along the road to Belchite between the Entredicho and Sierra Gorda ranges. The divisions operating towards the north slowed down temporarily in order to let the breakthrough at Belchite take effect.

The other corps, too, were successful in their first attacks. The 1st Division of the Navarre Corps had crossed the Sierra Herrera range. General Berti's Italian Corps had succeeded in taking all the enemy positions in its path and had driven a wedge into enemy territory. The Galicia Corps was engaged in heavy fighting north of Perales, on the way to Montalban.

At dawn on 10 March, the Condor Legion began to prepare for the expansion of the breakthrough action into the planned operation. All available He-111's, Do-17's, and He-51's were committed against the enemy airfields, and since they succeeded in surprising the enemy on the ground, the damage they caused was considerable. The bomber and dive bomber units carried out a series of attacks on the railway facilities in Laceria, as well as on the towns of Hijar, Azaila, and Escatron (on the Ebro), where their bombs were directed against enemy reserve troops being brought up to the scene of battle. The village of Belchite, the central point of the fighting at this time, was also subjected to heavy bombardment.

The German antiaircraft artillery batteries, too, were in the thick of the fight. Stationed along the front line, they concentrated with great success on the Red infantry moving along the highway to Belchite and in the Belchite area.

The German batteries discovered an extremely active Red antiaircraft artillery battery located to the east of the village and plastered it with powder-train fuses until the gun crews simply abandoned their posts. When the Nationalists investigated the site the next day, they found the guns destroyed; it had been a heavy battery, manned by French soldiers.

At noon the Reds hurriedly brought up the international brigades as reinforcements; they were decimated by the 5th Division and its accompanying tanks. By this time the 150th Division, supported by the strafing attacks by the He-51's, had taken the village of Azuara and was on its way to Letur. Along the Ebro, too, the front was in motion; Media and Puebla de Alborton were already in Nationalist hands.

During the afternoon the heatedly disputed village of Belchite was captured by German and Spanish tank units moving in from the rear, while the first troops of the 5th Division entered the village from the west.

11 March

While the flying units of the Condor Legion were doing their best to prevent the defeated enemy forces from reassembling in the rear area, the Marroqui Corps captured the entire area between the Ebro River and the village of Lecera.

The Italian Corps, with its strong artillery and tank forces, managed to reach the Martin River, which they followed as far as Oliete.

The Galicia Corps had gained ground in its advance to Montalban.

12 March

On 12 March, General Yague, Commanding General of the Marroqui Corps, made an important decision. At 0700 hours he sent his flank division into the attack, and loaded the majority of the 5th Division into trucks which had been brought up during the night and dispatched it to Azaila,

with one light and one heavy tank company, with mixed German and Spanish crews.

The transport column was covered by low-flying fighters from the Condor Legion, and the antiaircraft artillery forces kept the highway free, operating from positions located east of Belchite.

With sporadic enemy resistance, which was met effectively by the fighters and the antiaircraft artillery, the mobile force made its way through the basin of the Aguasvivas River, penetrated into the hill city of Azaila, over which German fighters circled, eliminated all enemy resistance, and came out on the other side, following the mountain road which leads towards the east into the valley of the Ebro. Red reserve troops, which had just arrived at Escadron and which were taken completely unawares, were overrun in a short battle by the infantry and tanks, supported by the Legion's bombers.

The evening of 12 March, the fourth day of the offensive, brought the end of this remarkable Nationalist thrust east of Escadron, at the point where the Martin River flows into the Ebro. A total of twenty miles had been covered since morning.

13 - 17 March

It was a mistake to give the troops more than one day of rest. By the time the offensive was resumed, the enemy had brought up additional divisions and substantially strengthened his resistance. The constant threat that Valencia and Barcelona might be separated was enough to spur the Reds on to an all-out effort. The Nationalist forces suffered heavy losses in the three days of stubborn fighting it took them to reach the Guadalupe, and a bitter struggle had to be got through before Caspe's defenders finally surrendered.

On 17 March the strategic objective of the first offensive phase was achieved. This was the line extending from Fuentes de Ebro via the Ebro River to Caspe, then, turning at a right angle towards the southwest, along the Guadalupe River as far as Calanda, and from there into the mountains east and south of Montalban.

At its biggest dip, this newly established front line projected more than sixty miles into enemy territory.

The Operations From the Ebro River to the Coast

The plans for the continuation of the offensive to the coast envisioned the following:

With the help of a large-scale offensive by the northern army, moving in a front some 820 feet wide, a force comprising eight army corps was to break through the enemy front between Teruel and the Pyrenees and, in one or more battles, to destroy the front on its way to the coast.

Nationalist leaders were aware of the fact that the Reds had the majority of their forces concentrated between Alcaniz and Caspe, ready to do everything possible to prevent a Nationalist breakthrough to the sea and a division of the front. Thus the northern army was to attack first, between the Ebro and the Pyrenees, in order to divert the enemy to that area and to achieve a dissipation of the enemy reserves. Once this operation was under way, moving from Huesca via Barbastro towards the Segreia sector between Lerida, Belaguer, and Trampo (Tremp), the southern army, which in the meantime would have reached the Guadalupe sector near Alcorisa, Alcaniz, and Caspe, was to advance on Morella and Gandesa and to push on to the coast between Castellon and Tortosa.

During the first phase of the offensive, a total of seventy-five miles had to be covered, in difficult mountainous terrain. There were very few roads which could be used. The valley of the Ebro, with its hundreds of winding loops, made operations more difficult rather than facilitating them. The entire region was barren, hot, and dry. Only along the coast itself had Nature been lavish with her gifts -- the indescribable beauty of the landscape and the delicious coolness of the air.

The Navarre Corps (General Solchaga), the Aragon Corps (General Moscardo), and the Marroqui Corps (General Yague) were deployed in readiness for the attack north of the Ebro.

While the Navarre and Aragon Corps advanced on Barbastro north and south (respectively) of Huesca, the Marroqui Corps was to move forward from the line achieved during the last attack and cross the Ebro River between Caspe and Quinto. Proceeding towards the northeast, it was to cross the Sierra Monegros range to Bujalaroz, from which point it was to veer to the east and advance on Lerida and Fraga.

The Galicia Corps (General Aranda), the Italian Corps (General Berti), and the 1st Division (General Valino) were to carry out the southern attack against Morella and Gandesa. The Castilla Corps (General Varela) was to stand by in the meantime on the southern wing, and was to be employed later against Castellon and Sagunto.

The entire Condor Legion was assigned to support the northern offensive between the Ebro and the Pyrenees, its point of main emphasis being the area around Huesca. In order to be ready for its mission, the Legion staff moved to Banos de Fitero, near Alfaro, and began to reconnoiter to find a suitable command post near Huesca.

The bomber and aerial reconnaissance squadrons remained at their bases in Alfaro and Zaragoza, while all the fighter units were transferred to Zaragoza.

The beginning of the large-scale offensive to the sea meant an increase in the importance of the activity of the Legion's naval air squadron, which was assigned to carry out attacks on Red positions along the coast and on Red shipping.

As far as the antiaircraft artillery was concerned, two heavy and one light battery joined the Aragon and Navarre Corps near Huesca. The remaining batteries were assigned to cover the Legion's airfields.

The Italian air units were assigned to the Galicia Corps and their own Corps on the southern sector; the Spanish air units were given the mission of supporting the Marroqui Corps on the southern flank of the northern assault force.

22 and 23 March

On 22 March the northern offensive began on both sides of Huesca. Although the Condor Legion carried out a number of bombardment missions north of Huesca, the Navarre Corps made only minor territorial gains.

Enemy resistance was extraordinarily obstinate, and the German aircraft had to shoot the Reds out of every inch of their trenches.

The Aragon Corps managed to gain a few thousand yards, but it was not successful in its attempt to reach the highway between Huesca and Barbastro.

During the night of 22/23 March, the Marroqui Corps began its advance from the Ebro line between Caspe and Quinto. The 13th Division managed to establish a bridgehead near Quinto and to erect a pontoon bridge over which the entire division crossed the river.

24 March

On 24 March the Navarre Corps, fighting against a strong and courageous enemy, was unable to make any better progress than on the day before.

In the area assigned to the Aragon Corps, however, the enemy began to give way and retreated, fighting, some fifteen and one-half miles towards the east. By evening the breakthrough on this sector could be regarded as accomplished. The German bomber squadrons had contributed a good deal to the Nationalist victory. Once again it was proved that fighting in the mountains is strenuous and time-consuming, while operations in even terrain can be gotten under way more rapidly and more easily.

Consequently, the northern army command decided to shift the point of main effort of the Marroqui Corps, which had brought all its divisions across the Ebro and was fighting on the other side of the Monegros range to win access to the Zaragoza-Lerida highway. This decision ignored the fact that an entire enemy division, unaware of the situation, was standing by the Sierra de Alcubierre on the wings of the Corps.

The Red air forces, still assembled on the other side of Alcaniz and Caspe in expectation of a Nationalist attack in the south, now moved their units to the north and were giving the Marroqui Corps a good deal of trouble. The Condor Legion immediately requested permission to take this area under its protection.

25 March

On 25 March the Navarre Corps finally forced the enemy to begin a retreat from Huesca towards Barbastro, and the town of Huesca was taken.

Ensconced in the church steeple of the town, the staff of the Condor Legion watched developments on the battlefield below. After they had once begun to give way, the Reds withdrew so rapidly that the antiaircraft artillery batteries were hardly able to change position quickly enough to follow them. During the afternoon and evening the German 88 mm guns were the only ones still able to fire at the Red retreat columns withdrawing on both sides of the road to Barbastro.

The Aragon Corps continued its rapid advance and was already on its way over the Sierra de Albubierre range.

The Marroqui Corps managed to reach Bujaraloz, and the highway to Fraga was firmly in its hands.

On this day the Galicia Corps and General Berti's Italian Corps also began their offensive on the southern sector of the front. Both Corps succeeded in crossing the Guadalupe River near Alcaniz and to the south near Alcorisa and in penetrating far into enemy territory.

On the other side of Caspe, the enemy was holding out desperately before the Navarre Division.

The bomber squadrons of the Condor Legion, after completing their part of the breakthrough operation, carried out attacks on the Red hinterland as far as the Segre River, while the fighter units were successful in their struggle with the Red air forces. The antiaircraft artillery batteries, shifting their positions rapidly, supported the ground operations with great success. On this particular day the signal communications battalion did an especially good job in keeping ~~their~~ ^{its} advance troops right up at the front lines.

26 and 27 March

On 26 March the Aragon and Navarre Corps fought their way to the thirty-eight mile wide sector of the Alcanadre River and even pushed beyond it.

The Marroqui Corps formed a strong motorized column made up of infantry, light artillery, and tanks, which -- protected on its northern flank by the cavalry division -- advanced towards the east along the highway, putting down all enemy resistance as it went, until it reached a point close to the strongly fortified enemy positions near Fraga, on the Cina River. The Marroqui column broke through the enemy front at its weakest point. During its march, the Red bomber squadrons managed to attack it, causing heavy losses. The Red division which had been standing by in the Sierra de Alcubierre mountains was forced to surrender, after the Nationalist attacks had grazed its wings at a distance of some thirty-five miles.

Operating from their combat airfield near Bujaraloz, the German fighter units engaged in aerial combat with the enemy and also carried out low-flying attacks.

On 27 March, with the help of the German antiaircraft artillery units and the Legion's bomber squadrons, the Marréqui Corps captured the town of Fraga by means of an attack which threatened it from both sides. On the following day the Corps took the town of Mequinenza. This brought it to the Ebro at the point where the Segre flows into it, some eighteen miles northeast of Caspe. North of Fraga, the Aragon Corps managed to reach the Cina River, while the Navarre Corps captured the town of Barbastro.

The Condor Legion committed almost all its aircraft in attacks on the enemy forces stubbornly defending themselves in the mountains on the other side of Caspe against the advancing 1st Division. As a result of this air support, the Nationalist attack on that sector as well was able to get under way the following day.

28 March - 17 April

On 2 April, after heavy combat during which the German antiaircraft artillery batteries were constantly employed against ground targets, Lerida, the capital of the province and located along the lower course of the Segre River, fell into Nationalist hands. The front line along the Segre sector (Mequinenza - Lerida - ~~Fraga~~ Balaguer - Tremp) gradually became stabilized.

South of the Ebro, the Italian Corps occupied the town of Gandesa on 4 April

183

129

and took possession of the lower course of the Ebro from Tortosa to Gandesa. The Galicia Corps had the honor of being the first to catch sight of the Mediterranean; on 15 April the first Spanish battalions reached its blue waters. The Red centers Barcelona and Valencia were now cut off from one another, and the Red government in Barcelona was also cut off from the sizable areas under its control.

On 17 April the Condor Legion mobilized all its available bombers for a large-scale attack on the harbors of Almeria and Cartagena on the southern coast of Spain. The Reds had received a good many supplies via these ports during the last few months, and it had proved impossible for the naval air squadron on Mallorca to do very much about it all by itself. After taking part in the fighting between Castellon and Tortosa, all the bombers had been diverted from Zaragoza, where they landed to refuel, to Salamanca and Avila, and from these cities to Seville. One aircraft crashed over the highway from Merida to Seville, and six young pilots were buried under the wreckage. A second aircraft was forced to land because of engine trouble. All the rest reached their two targets the next day and, despite enemy antiaircraft artillery and fighter aircraft, managed to drop a total of eighty-two tons of bombs on them. One Red warship was sunk and a second one heavily damaged; both the two harbors and the railway stations serving them received a number of direct hits.

The Advance to Valencia (See the map in Appendix 7)

The Nationalist military leaders had learned that the Reds had deployed half of their divisions in Catalonia in readiness for the Nationalist offensive north of the Ebro. Thus they decided, while the last bit of fighting was still going on, not to continue the attacks in the north and to march on Valencia instead. While the northern army was to hold the gains made along the lower course of the Ebro and in the Segre sector, the southern group, consisting of the

184

130

Castilla and Galicia Corps, was to launch an attack from the curve in the front which led from Teruel via Montalban and Morella to St. Mateo against the Sagunto - Segorbe line. As soon as the group had been reassembled in the latter area, it was to move forward against Valencia. Once Valencia was in Nationalist hands, Franco hoped that Madrid, cut off from its last channel of communication with the outside world, would fall into his hands as well.

The operations against Valencia took the entire spring of 1938 and most of the summer -- until mid-July. Shortly before the final decision was reached, they had to be broken off.

The attack, which began on 21 April with the full support of the Condor Legion, encountered stubborn enemy resistance during the very first day. Some of this resistance was offered by the Red fighter units, which were committed from their bases in Catalonia.

The Condor Legion had transferred all its fighter forces to the La Cenia airfield, in the vicinity of Vinaroz between the coastal range and the sea. From this location, they could be employed against the Catalonian front as well as against Valencia. The bomber squadrons remained at Zaragoza and La Cenia. The antiaircraft artillery batteries were employed along the assault front, apart from those units assigned to cover the Legion airfields at Zaragoza and La Cenia. The Legion staff established its headquarters in Benicarlo, on the Mediterranean coast.

On 29 April the Nationalist army command deployed the famous 1st Navarre Division, reinforced by tanks, between the Castilla Corps and the Galicia Corps in order to give the offensive added weight.

In a series of difficult, bloody, and time-consuming battles, the Nationalist forces had succeeded by the end of May in breaking down the enemy front along the curve between Teruel and St. Mateo and in reaching La Puebla de Valvedere, Mora de Rubielos, Mosqueruela, and Banasal. Very little progress had been made along the coast.

During this period the Condor Legion was faced with an extremely difficult

185

131

mission. In view of the tense political situation in central Europe, the supply shipments of new aircraft from Germany were very unreliable. And the stronger the pressure on Valencia became, the more air units the Reds transferred from Catalonia. Since the Legion did not have enough of the new, fast Me-109's, the ancient He-51's, far inferior to the Red Curtiss and Rata fighters, suffered heavy losses. The Red antiaircraft artillery forces, too, were a factor to contend with during the occasional large-scale bombardment attacks.

The mountain ranges of Sierra de Esparraguera and Sierra de San Cristobal represented insuperable obstacles to the weary Nationalist troops. On 2 June, the Reds, having regrouped their forces despite the difficulties caused by repeated attacks on the ground and from the air, finally began to give way on the coast and in the vicinity of Albocacer and withdrew to escape the threatened outflanking by the center forces of the attacking group. The Nationalists still had hopes of cutting off at least two Red divisions north of Castellon, but their attack -- carried out from the center against the area behind Castellon, -- soon came to a standstill in the mountains. The divisions along the coast, taking advantage of their success so far, began to push ahead. Nevertheless, an assault column from the Galicia Corps, which launched an attack just west of Castellon, was unable to achieve a breakthrough.

Finally, on 15 June, after heavy fighting and after the 4th Navarre Division had taken Almazora and Villareal (both lying along the highway to Sagunto, but further forward than Castellon), the breakthrough into the city succeeded. German tanks (under the command of Colonel von Thoma), together with troops from the Galicia Corps, moved into Castellon. But on the other side of the city, near Nules, the front came to an end, faced by the sea and by the mountains of the Sierra de Espadan range. The Castilla Corps and the 3d Navarre Division (reinforced to corps strength in the meantime) carried their attack as far as the Mijares and Seco Rivers. The territorial gains were impressive, but the final objectives of the operation, Segorbe and Sagunto, were still in enemy hands.

Despite the all-out efforts of the Condor Legion, the Red air forces were be-

coming more and more effective. They were supported by imports from France. The Condor Legion's shortage of Me-109's was more and more painfully felt.

It came as a shock to Spanish military leaders when they learned from the reports of German aerial reconnaissance units and of Spanish espionage agents that at least six strong Red divisions had been identified in the area of Tortosa (on the eastern bank of the lower course of the Ebro). The accumulation of bridge-building materials and the increase in supply activity from Barcelona made it plain that the Reds were planning an offensive of some kind.

The commanders of the northern army ignored these reports in the beginning. On 8 July they ordered the energetic continuation of the attack on Valencia. The troops were to cross the Teruel - Sagunto line and then carry out a thrust towards the interior, past the city itself, so that they could come up upon it from behind. A new corps (the Turia) had been formed for this operation; it was assigned to the outermost right wing of the attack force, near Barracas. General Berti's Italian Corps, which had been brought up in the meantime, the Corps under Valino (the 1st Navarre Division), and the Castilla Corps joined the attack. The Galicia Corps was to push right on through to the coast and lead the assault on Valencia. With the exception of the Marroqui, Navarre, and Aragon Corps, the entire northern army was now assembled for the attack against Valencia.

On 13 July the attack was launched from the right wing. The first phase, carried out by the Turia Corps and the Italian Corps, made fairly good progress. On the center sector, the Valino Corps, supported by the Condor Legion, ran into trouble in four costly and useless attacks in the mountains of the Sierra de Espadan range. The Galicia Corps, operating along the coast near Nules, made no progress whatsoever. The commander of the Condor Legion suggested that the Valino Corps should be reinforced with artillery and then employed against Segorbe, in order to achieve a breakthrough in the center. But the suggestion was not accepted, inasmuch as Spanish leaders hoped to be able to cut off a large number of enemy forces by means of an attack across the Sarrion-Viver highway.

In the last analysis, neither project was realized. While Valino and his forces, despite their heavy losses, continued their battle against the enemy positions in the Sierra de Espadan mountains, the Reds surreptitiously withdrew from the front sector north of Viver, thus rescuing their forces from the potential encirclement area. Only fifty prisoners were taken.

The Red resistance was far more stubborn than had been anticipated. On the coast, along the line extending from Viver across the Sierra de Espadan range to Nules, the Nationalist offensive broke down completely.

The Battle at the Bend of the Ebro (See the maps in Appendices 7 and 8)

On 25 July 1938 the anticipated Red relief attack was launched in the bend of the Ebro between Tortosa and Mequinenza, an attack which led to the hardest, bloodiest, and most time-consuming battle of the entire war. It lasted from the end of July until the middle of November and was restricted to an area no more than nineteen miles wide and ten miles in depth. The losses suffered by both sides can be estimated at 20,000 to 30,000 men. It is true that this battle ultimately broke the resistance of the Reds, but it cost the Nationalist forces the most intensive effort they had been called upon to make since the beginning of the war.

For weeks Nationalist leaders had been expecting the Red onslaught at the bend in the Ebro and had assumed that the Marroqui Corps divisions assigned to that sector would be capable of throwing back the attack.

As luck would have it, the bend in the Ebro itself was guarded by a newly established Nationalist division. When the Red divisions crossed the river at seven different points during the night of 24/25 July, there was hardly any artillery fire to be heard. The next morning, the Nationalist division surrendered without a fight. Nationalist attacks were carried out during the afternoon. By evening it was learned that four Red divisions had crossed the Ebro and had advanced as far as the Gandesa - Villa-Alba - Fayon line, capturing the hills of the Sierra Caballo and Sierra Pandole ranges which overlooked the area.

They had also succeeded in establishing a bridgehead north of the breakthrough area, between Fayon and Mequinenza.

Upon receipt of the news of the Red breakthrough, Generalleutnant Volkmann, the commander of the Condor Legion, went immediately from his headquarters at Benicarlo to Caspe to visit General Yague, commander of the Marroqui Corps. General Volkmann offered General Yague the full support of the Condor Legion, and his offer was gratefully accepted.

General Franco ordered that five divisions, to be released from the northern sector near Fraga, the southern sector near Castellon, from Teruel, from the Madrid area, and from Andalusia, be dispatched to the breakthrough front without delay. The locks of the power plants on the Segre were opened, in order to sweep away the footbridges established by the Reds at the ~~xx~~ bend in the Ebro.

The services of the entire Nationalist air force, with all its German, Italian, and Spanish units, were employed in an attempt to bring the enemy advance to a standstill and to destroy the bridges and ferries over the Ebro. At 1200 hours, the German units began their first missions, seriously hampered by enemy antiaircraft ~~xx~~ artilleries artillery fire, but protected effectively by the German fighter aircraft. During the afternoon the Italian and Spanish units also joined the attack; by this time the German bombers were already flying their second and third missions against enemy troop concentrations in the breakthrough area, near Flix, Mora de Ebro, Benifallet, Ginestar, and Pinell. Apparently the enemy had not reckoned with such a rapid and effective counterattack from the air, for there were only a few Red air units in operation at the Ebro bend.

It was a matter of days before the Nationalist divisions could arrive on the scene of action. During 26, 27, and 28 July, it was still up to the Nationalist air forces alone to try to smother the enemy assault. The international brigades tried repeatedly to capture the town of Gandesa, but were deterred each time by the barrage of bombs and airborne armament fire. Gandesa remained in Nationalist hands.

Thanks to the repeated missions flown by the German, Italian, and Spanish air units over the Ebro bridges, the supply system of the enemy was seriously disrupted. In the confusion of renewed Red assaults and sporadic Nationalist counterattacks, there was at least time to bring up the nearest divisions of the approaching Nationalist force.

The Marroqui Corps, which had been entrusted with the counterattack, was divided into three groups, consisting of three divisions each, between Cherta and Fayon. The group on the right, which included the 4th Navarre Division, was under the command of General Alfonso Vega; the central group was under the command of General Baron Ortiz; and the group on the left was commanded by General Delgado Cerrano.

East of the Ebro, behind the breakthrough point near Falset, the Reds had deployed a new corps, ready to make the most of the breakthrough action from the strategic point of view. Thus the Nationalist counterattack was all the more urgent!

Nationalist leaders, however, considered it advisable to wait for the arrival of two more divisions if the planned attack was to have any prospect of success. Moreover, they considered it better to carry out preliminary attacks along the flanks of the enemy breakthrough force first, in order to provide a more favorable starting position for the main offensive.

In the meantime not even the dedicated missions flown by the German and Italian air units were able to keep the Reds from sending more and more troops across the river. The large-scale counterattack designed to restore the Ebro to the Nationalists was becoming more and more difficult.

The Red air forces were now much more in evidence than before. About fifty Ratas and Curtiss' were involved in aerial combat over the Ebro bend with an equal number of German Me-109's and Italian Fiats. Red bombers, on the other hand, were rarely seen. There were two German antiaircraft artillery batteries stationed near Gandesa, where they were fully occupied in trying to keep down the enemy infantry, ward off Red aircraft, and keep the Ebro bridges under fire.

Four hot summer weeks went by with heavy fighting, and the Nationalist count-

erattack had still not been launched. In the vicinity of Mequinenza, the 82d Division had succeeded in driving the enemy back to the Ebro and in taking 2,000 prisoners. A Red assault north of Lerida was repulsed after violent combat. But at the Ebro bend itself, the situation remained unchanged. During the night the Red engineer troops rebuilt the bridges destroyed by the Nationalist air raids during the preceding day.

Every day now the German fighter pilots were encountering enemy fighters; Red observer stations in the mountains around Tortosa were able to report the approach of German aircraft from La Cenia in plenty of time to alert the Red fighters.

The battle was taking heavy toll on both sides, and it seemed to be a question of which side could sacrifice more blood. In spite of bitter hand-to-hand combat, the Nationalists were unable to dislodge the Reds from the mountain ridges.

Together with the commander of the Italian air forces, the commander of the Condor Legion suggested to Franco that he should restrict himself to defense at the bend of the Ebro and should carry out an attack north of the Ebro, on either side of Lerida, thus relieving the Ebro front. Five divisions were available for such an attack. But the suggestion was rejected, just as in the cases of Brunete and Teruel. The Generalissimo decided that the breakthrough point had to be eliminated first, before he could begin to think of a new operation.

The Ebro sector was now divided into two Corps -- the Maestrazgo Corps, under General Valino, was assigned with its three divisions to the section between Cherta and Gandesa, and the Marroqui Corps (four divisions) to the line between Gandesa and Mequinenza.

The staff of the northern army established its headquarters in the vicinity of Gandesa, where it was soon joined by the Condor Legion staff.

On 4 September and during the days which followed, a number of territorial gains were made at various points, but none of them was really significant. The losses the Nationalist forces had already suffered at the Ebro bend

191

137

were so serious that they were now followed by an inevitable period of complete exhaustion. The Reds were in a similar situation. As a result, the fighting gradually began to subside.

On 20 September the Reds made an attempt to relieve the Ebro bend by means of an attack in the south, along the Mediterranean front in the area of Segorbe and Sarrion. Thanks to the intervention of the Italian and Spanish air units and to a counterthrust carried out by an Italian division, however, the front could be stabilized in only two days. Then it began to rain, and the rainstorms continued for ten days.

At this point a new decision was made. Nationalist leaders abandoned the original plan, which had called for an attack at the center of the breakthrough point, in order to bring about the collapse of the wings. Instead, the point of main effort was now shifted to the right wing, in other words the area covered by the Maestrazgo Corps between Cherta and Gandesa.

The Corps was strengthened to five divisions and reinforced by seventy artillery batteries (of all calibers), two groups of tanks, the German antiaircraft artillery units, and the Lucht Artillery Group. All the available air units were assembled -- the Condor Legion, the Italian Aviazione Legionaria, and the two Spanish air brigades. This represented just about everything the Nationalists had at their disposal in the way of air forces, and their withdrawal from other fronts simply had to be accepted as a necessary evil.

The Reds had a total of seven divisions stationed on the sector in question, plus three brigades which they were holding in readiness across the river. The Reds were just as stubborn as the Nationalists in their determination to hold this sector, which they presumably needed as a starting point for the expansion of the breakthrough action; it would have been completely useless to them simply as the focal point of a costly defense action. They had paid for their assault across the Ebro and the establishment of their bridgeheads on the other side with 30,000 men,

and they were firmly determined not to abandon the barren ridges of the Caballo and Pandole range under any circumstances.

Thus, on 31 October 1938, the most costly battle of the entire Spanish Civil War began.

While the continuous bombardment attacks of the entire Nationalist air force covered the Caballo and Pandole ranges with a cloud of smoke, and the Spanish artillery -- together with the heavy antiaircraft artillery of the Condor Legion and the Lucht Artillery Group -- operating from the area around Gandesa and Cordoba, fired their salvos directly before the attacking infantry, the battalions of the 1st Navarre Division made their way, step by step, up the northern slopes and reached the peak. The international brigades on the Sierra de Pandole began to give way and withdrew, still fighting, to the village of Pinell and to the bank of the Ebro.

The Nationalist attack came to a standstill some thousand yards from the river, but was continued on the following day. While the Reds clung stubbornly to the eastern and southern slopes of the Sierra de Caballo, the battalions of the 4th Navarre Division advanced as far as Pinell and captured the village. There were a few Red battalions holding out south of Pinell, but these were cut off from the main force and were captured by 9 November.

General Vigo now ordered the two divisions to fan out towards the northwest and to advance on the highway connecting ~~Mazarron~~ Mora de Ebro and Venta de Camposina.

The Nationalist air units dropped heavy bomb loads over the bridges being used by the Reds in their headlong retreat. The German antiaircraft artillery batteries and the Lucht Artillery Group kept the roads under constant fire.

German and Spanish tank units were moving ahead to the Nationalist infantry troops to smooth the way for them.

The Reds made several desperate efforts to stage a counterattack, but without success. By 7 November the Nationalists were in possession of the entire highway

193

138 - a

between Mora and Venta, and the bank of the Ebro between Cherta and Mora was firmly in the hands of the Nationalist divisions.

On 5 November, all available bomber units of the Spanish,

German, and Italian air forces had carried out a large-scale attack on enemy airfields in an attempt to destroy the Red air forces at one blow. The naval air squadron in Mallorca also took part in the attack. Utilizing all its bomber units, the Condor Legion attacked the airfields at Reus and Valls (northwest of Tarragona). During the days which followed, the Red air units were seldom in evidence over the front, which made it possible for the Nationalist forces to carry out the final operations needed to regain the bend in the Ebro.

During the night of 6/7 November, the Reds launched a new attack on the Segre sector near Torres de Segre (southwest of Lerida) in an attempt to postpone the catastrophe threatening the Ebro bend. The first assault group managed to occupy a number of villages and took possession of the highway between Fraga and Lerida. A few days later, the Reds were forced to retreat from the highway. In the south as well, in the area south of Castellon, near Nules, the Reds undertook an attack to relieve the main front. With the help of strong tank and artillery forces, they succeeded in capturing a number of Nationalist positions, from which, however, they were dislodged the same day. The German bomber squadrons carried out two attacks in this area.

During 9 November the Maestrazgo Corps continued its advance along the Ebro towards the north and northwest; on 12 November, Corps troops reached the highway between Asco and Fatarella.

On 14 November the Marroqui Corps also got under way and occupied the town of Fatarella in the face of token enemy resistance.

On 16 November, after a delay of three and one-half months, the villages of Flix and Ribaroja, on the Ebro, were occupied by the Nationalists. This action brought the whole of the Ebro line from Cherta to Fayon into Nationalist hands. The Reds lost 20,000 prisoners and 15,000 dead on the battlefield; their total losses were estimated at 70,000 men. They also lost sixty artillery pieces, 400 machine-guns, thirty-five tanks, and 300 aircraft.

139 - a

195

The Liberation of Catalonia (See the maps in Appendices 7, 9, and 10)

The problem of whether to continue the operations designed to liberate the province of Catalonia or to carry out a decision-seeking attack on Madrid was decided in favor

of an immediate attack in Catalonia. There were two factors strongly in favor of this decision: In the first place, the Catalonian operation could be launched without any delay, since the necessary forces were already assembled in northeastern Spain, and in the second place, the freedom of movement of the Red forces was gravely restricted by the fact that a large part of their troops were crowded together in the narrow area between the Ebro and the Pyrenees, and that their supplies now had to come primarily from southern France, since the growing effectiveness of the Condor Legion naval air squadron and of the Nationalist naval forces made ocean transport too hazardous. The Red supply lines to France, of course, would be easily cut off by a Nationalist victory over Catalonia. Lastly, political considerations also played a role in the decision -- Barcelona was the intellectual and political center of the Red movement, and the danger of Catalonian separatism (a movement which had always been surreptitiously supported by France) had to be eliminated before it could flame up again.

On 26 November 1938, General Franco set 10 December as the beginning of the offensive against Catalonia. Only fourteen days remained for the regrouping and recuperation of the troops -- a very short time indeed.

The northern army was divided into two army groups, the northern one under General Davila and the southern one (the Levante Army), between Castellon and Teruel, under General Orgaz. The northern group consisted of five Spanish army corps of three divisions each plus the Italian Corps with four divisions.

The objectives and missions of the individual corps were as follows:

The Marroqui Corps, assigned to the Ebro bend between Tortosa and Mequinenza, was to stand by until the attack on both sides of Lerida had successfully gotten under way and then to cross the Ebro and cut off the enemy forces in the Tortosa area. It was then to advance along the coast to Tarragona and capture this city.

The Navarre Corps and the Italian Corps were to form the main assault group, carrying out their attack south of Lerida, on both sides of Seros. The two Corps

were to unite at the bridgehead in Seros and to advance from there in a tightly concentrated group to take the passes near Montblanch and Valls, leading down into the Catalonian plain. The Aragon Corps, stationed between Lerida and Balaguer, was to fight a delaying action at first and then to join the advance of the neighboring assault group.

The Maestrazgo Corps and the newly established Urgel Corps formed the northern assault group of the northern army group. They were to advance between Balaguer and Tremp, encircling Artesa de Segre, and then to fan out towards the southeast for an assault on Cervera, calculated to bring about the collapse of the Red front line. Later the two Corps were to move on to Igualada and Manresa and, continually outflanking the enemy to the north, were to drive him back to Barcelona.

In practice, to be sure, a number of fundamental changes had to be made in the operational plans detailed above.

The Missions Assigned to the Air Units

The Condor Legion, now (i.e. after conclusion of the operations at the Ebro bend) under the command of Generalmajor Freiherr von Richthofen, with Lieutenant Colonel (GSC) Seidemann as chief of staff, was requested to distribute its units equally between the Marroqui Corps, at the bend of the Ebro, and the Navarre Corps, at the bridgehead of Seros.

The Italian air units were to support the operations of their own Corps.

The Spanish air units were distributed among the Aragon, Maestrazgo, and Urgel Corps.

All three groups were to carry out concentrated attacks on enemy troop assembly points, airfields, signal communications centers, highway junctures, and seaports two days before the beginning of the attack. During the attack itself, they were to support the operations of the divisions as usual.

At this time the Nationalist air units were composed of 98 aircraft of the Condor Legion, 134 of the Italian Legion, and 146 of the Spanish brigades. The number

of fighter aircraft was about the same as the number available to the Reds, whereas the Nationalist units had far more bombers at their disposal than the Reds. Despite the numerical superiority of the Nationalist air forces, the variety of aircraft models and the threefold command apparatus must be acknowledged as disadvantages.

The bomber group of the Condor Legion comprised forty He-111's, the dive-bomber flight three Ju-87's, the fighter group forty-five Me-109's and one squadron of He-51's, the reconnaissance squadron five Do-17's and five He-45's, and the naval air squadron on Mallorca eight He-59's.

The Legion's antiaircraft artillery still consisted of five heavy and two light batteries.

The signal communications battalion was also unchanged.

* The Panzer Group Drone, with its forward assault party, was standing by for action, as was the Lucht Artillery Group.

The schools set up for the training of the Spanish Army (at Toledo, Avila, Pamplona, Granada, Miranda, San Roque, and Soria) were still extremely busy.

In spite of the heavy losses it had suffered during the operations at the Ebro bend, the Red air force was still estimated at ten squadrons of Curtiss and Rata fighters. It had lost all but about ~~ten~~ ^{a dozen} bombers, however. After a few unsuccessful low-level attacks on the German airfield at La Cenia, the Red fighters began to hold back. Apparently they were saving their strength for the final struggle.

Evaluation of the enemy ground forces, based on aerial reconnaissance reports and on the statements of prisoners and deserters, gave the following picture:

Four enemy divisions were stationed at the mouth of the Ebro near Tortosa and Fayon, eight divisions between Fayon and Tremp, and three divisions between Tremp and the Pyrenees; another five divisions were being held in reserve between Artesa de Segre and Cervera. Thus the defenders had a total of twenty divisions as against nineteen for the attackers. It must be remembered, however, that as a rule the Red divisions were slightly smaller than the Nationalist ones and that they had far fewer

er auxiliary arms. It was estimated that each Red division had been reduced to one-half or one-third of its authorized strength by the operations at the Ebro bend.

The international brigades had been so weakened by the preceding battles that their total strength was estimated to be only about 9,000 men. The stream of volunteers from abroad had dwindled considerably as a result of the change in the situation. But those brigade members still in Spain fought bravely, relentlessly, and stubbornly.

Nationalist commanders had very little to go on regarding the morale of the Red divisions. As it later turned out, their supply situation was not at all bad, but their fighting morale had reached a very low point.

The Reds had been waiting for the offensive in Catalonia for more than a year. After the Nationalist front had pushed forward to the Segre, in the spring of 1938, the Reds had concentrated every effort on fortify^{ing} the Segre sector and ~~to~~ build up a series of new defense lines between it and Barcelona. Thanks to aerial reconnaissance reports, the Nationalists were aware of this activity.

The character of the terrain was in favor of the defenders. There were the mountains of the Sierra de la Llana range and those just east of it, rising to 3,300 feet, there were countless canals traversing the countryside east of the cities of Lerida and Balaguer, and there were the many canyons, valleys, and ridges of the southern slopes of the Pyrenees -- all of these natural factors made the area an ideal one for defense operations.

The Accomplishment of Operations

The original date set for the beginning of the offensive, 10 December, had to be postponed because of poor weather. The new starting date was set at 17 December.

On 17 December, the Condor Legion began its mission in the form of a series of attacks over the area just ahead of the Marroqui Corps on the lower course of the Ebro. These attacks were directed against enemy troop concentrations, the railway depots of Reus and Tarragona, and the military barracks at Ampola. They were intend-

ed to deceive the enemy, whose attention was to be diverted from the main attacks at Leros, Lerida, and Balaguer.

Continued bad weather made it necessary to postpone the offensive several more times, each time by twenty-four hours. Finally, on 22 December, it was decided that the attack would be launched on the following day, regardless of conditions.

During the days prior to 23 December, the Condor Legion continued its attacks in the south so effectively that the Red commanders actually transferred two of their five reserve divisions to the Ebro front; they were sorely missed later on in the Segre sector.

As soon as the order to attack had been issued, the Legion shifted its activity to the areas ahead of the Navarre and Aragon Corps between Mequinenza and Balaguer.

The Italian and Spanish air units followed suit in the areas assigned to them, i.e. north and south of the Condor Legion.

On 23 December, two days before Christmas, the largest and most decisive offensive of the Spanish Civil War began at 0800 hours with two hours of artillery fire directed into the area ahead of the five assault corps between Mequinenza and Tremp. The day was gloomy and cold.

At 0945 hours all the Nationalist bomber forces flew over the front and, for three quarters of an hour, bombarded enemy trenches, battery positions, and any roads which might be used for the bringing up of reinforcements.

The infantry attack began at 1000 hours.

Strangely enough, the Red air units kept completely out of sight. Presumably their airfields were located in a bad-weather area.

As the smoke from the bombardment attacks began to drift away, the first Nationalist low-level attack aircraft made their appearance. Their activity gave an indication of the enemy's position on the ground.

The first tanks of the Nationalist force broke through the lines, followed by smaller infantry details which, together with the tanks, engaged in combat with the

144 - a

201

enemy forces.

One hour later, the bomber squadrons appeared once more for their second run over the battlefield. By evening they had flown another four missions, always flying out ahead of the infantry. They were soon able to pick out enemy targets in the rear area.

The antisircraft artillery forces, working with the artillery to smooth the way for the infantry,

202

145

had already shifted their positions, no easy matter in this difficult terrain, made all the more confusing by the shell-holes.

But despite the overwhelming efforts made by the Nationalist forces, the first day of the offensive failed to bring them any appreciable gains. The resistance offered by the Red divisions was far more stubborn than had been anticipated. In addition, the two northern Corps, Maestrazgo and Urgel, had had to contend with snow and fog.

It was already obvious that changes would have to be made in the original plan. The Maestrazgo and Urgel Corps had not advanced beyond the enemy forward line and still had to face the well constructed line of emplacements behind it. The Aragon Corps, on the middle sector, had acted in accordance with orders; its right wing had reached a point on the other side of Balaguer, while the center and the left wing had not moved out of their starting positions.

Under these circumstances the advance of the Navarre Corps and the Italian Corps, both of which had advanced from the bridgehead at Seros, seemed all the more significant. Thanks to their motor vehicles, the Italians had advanced at a good pace and were already approaching the mountains. Their left flank, however, was unprotected and in danger from an anticipated enemy counterattack.

The combat-seasoned Divisions of the Navarre Corps, which had been supported all during the day by the air units and antiaircraft artillery units of the Condor Legion, succeeded in tearing the largest gap in the enemy front. Even at this early stage, their success was enough to make the commander of the Condor Legion wonder whether it might not be wise to concentrate all the Legion units at this point, in order to help the Navarre Corps to a victory so spectacular that it would carry the rest of the assault corps along with it and, by means of a sudden thrust to the sea, cut off the entire southern front of the Reds. But before one could think of exploiting the strategic success of the beginning, the victories of the first day had to be stabilized and expanded.

The Marroqui Corps, on the lower course of the Ebro, had made no progress whatsoever. Poor weather and the swollen waters of the river had made it impossible for it to get across the river. Besides, Nationalist leaders had no intention ~~in~~ of driving the Reds out of their corner of the front along the sea ahead of time.

~~During~~ The days which followed, until 26 December, followed -- and intensified -- the pattern of the first day, in every respect.

The two northern corps, Maestrazgo and Urgel, made no advances at all.

The Aragon Corps managed to carry out a breakthrough action with its left wing, in the vicinity of Balaguer. The gap thus created opened up the prospect that the Corps might be able to fan out towards the southwest towards Cervera and thus gain access to the mountains. In any case, the general staff of the northern army was convinced that this would be possible. As a result, the staff withdrew two divisions from the Maestrazgo Corps and one division from the central sector of the Aragon Corps and transported them to Balaguer by truck; all available tanks and a good many artillery batteries were concentrated at Balaguer. The commander of the Condor Legion decided to dispatch three German antiaircraft artillery batteries to the area and to shift the focal point of activity of the flying units to the northern army group.

As regards the Italian Corps, the anticipated threat to its left flank had come into being. The Italian air units and tanks did everything in their power to protect the flank from the enemy but were unable to prevent the Corps' losing ground at a number of points. This was all the more serious in view of the fact that the central and right sections of the Corps continued their advance, and were rapidly approaching the mountains, on the eastern slopes of which the city of Montblanch was situated.

The Navarre Corps made every effort to continue its thrust, although the enemy had brought in a strong reserve force on 25 December.

The German bomber squadrons, active day and night, did their best to destroy the enemy troop concentration areas with their 110-lb bombs, while the antiaircraft artillery forces changed position rapidly to keep up with the attack force. Their

204

146 - a

light batteries were usually stationed along the forward line, where they participated directly in the combat being carried out by the infantry troops. They proved to be extremely valuable in defense operations against the enemy tanks.

205

147

The German dive bombers selected the enemy reserve troops in the Granadella area as their targets and eliminated them with a few direct hits. On 26 December the Navarre Corps reached the outskirts of Granadella.

The Marroqui Corps had still not moved out of its starting position.

In spite of the reinforcements it had received for the northern assault force, near Balaguer, the results of the new attack failed to come up to expectations.

Although the Condor Legion employed all its units day after day, although the antiaircraft artillery forces were tirelessly committed against enemy ground targets, and although the Nationalist infantry troops were supported by German and Spanish tanks, enemy resistance remained adamant. There were, of course, local victories, achieved at a tremendous cost in men and materiel. During these operations the German tank units evolved a new tactic -- they combined their activity with that of the heavy antiaircraft artillery batteries, directing the fire of the latter by radio from the front line. Very frequently the tanks were able to break through the enemy lines and to destroy pockets of resistance, but most of the time they had to return because there were no forces available to occupy the territory gained.

In spite of poor weather conditions and the haze lying over the battlefield, the Legion's bomber squadrons continued to attack the area just ahead of the Spanish infantry; their losses were high as a result of increased enemy defenses. On 27 December a Do-17 manned by a Spanish crew was hit by Red antiaircraft artillery fire and, during its plunge, caught another Spanish Do-17, forcing it to crash as well.

It often happened that the Spanish battalions occupied an enemy position during the day and were forced to give it up again during the night. It could no longer be denied that the battle on the northern wing had entered a critical stage. It was urgently necessary that a new plan be worked out.

And on the southern wing, in the sector assigned to the Marroqui Corps, there was nothing happening which might be calculated to give rise to Nationalist hopes. Several attempts to cross the Ebro failed, although enemy resistance was slight.

The crossing points prepared by the Corps were torn away by the flood waters. The Moroccan soldiers suffered from the unaccustomed snow and fog.

On the central sector, the Navarre Corps and the Italians were advancing slowly, but they were unable to cover more than a few thousand yards per day. The Italians still complained of strong enemy counterattacks along their exposed northern flank and spent a good deal of effort in warding them off.

The struggle for air supremacy had begun with a vengeance. Since the Reds had only a few bombers left, whose employment was made impossible by the German antiaircraft artillery, they restricted themselves to frequent commitment of their Rata and Curtiss fighter aircraft. The German Me-109 units moved to an emergency landing field near the battlefield in order to obviate the long approach route from La Cenia. Wherever they appeared, the Me-109's dominated the skies; the Ratas and Curtiss engaged in aerial combat only when they were numerically superior.

The bomber squadrons gradually adopted the practice of harassing the enemy in night attacks, which went far into the hinterland.

The naval air squadron was relentless in its attacks on Barcelona and the coast.

But none of these efforts on the part of the Condor Legion led to any real success because the offensive on the ground, with the exception of the assault of the Navarre Corps, had virtually come to a standstill.

Thus the situation was anything but encouraging as the year came to an end. Nationalist leaders began to wonder whether the striking power of the corps had not been exhausted by the previous campaigns in Zaragoza and Teruel and by the thrust to the sea.

On 3 January 1939, a change for the better finally seemed to be taking place. The Maestrazgo Corps, with the support of the entire Condor Legion, gradually worked its way forward to a point just before Artesa de Segre, and it seemed certain that the town would fall into Nationalist hands on the following day. If this hope were fulfilled, then it seemed possible that the Corps could fan out as planned towards

207

149

the south to attack Cervera. This action, in turn, would be bound to bring the Aragon Corps into motion. During the evening the German light antiaircraft artillery succeeded in warding off a strong Red counterattack. Enemy low-level attacks on Cubells resulted in heavy losses (three dead and several wounded) among the courageous troops of the signal communications battalion.

On the next morning Artesa de Segre was captured by the 1st Division. But in spite of a concentrated effort on the part of the Nationalists, it proved impossible to continue the advance towards the south.

The Aragon Corps now began to reap the fruits of the attacks carried out by its neighboring corps. Step by step, the enemy abandoned the sector east of Lerida, which meant that the northern wing of the Italian Corps was finally safe.

On the same day, 4 January, ~~in~~ a division from the Marroqui Corps crossed the Ebro near Asco and established a bridgehead there. This provided at least provisional contact to the Navarre Corps, which had penetrated far into enemy territory, and relieved it of the constant worry over its hitherto exposed right wing.

In the meantime the Reds had come to the conclusion that danger threatened on the central sector, occupied by the Navarre Corps and the Italians, rather than either in the north, near Artesa, or in the south, along the Ebro. They had brought up two new divisions, which were ordered into action for the first time on 5 January.

Red commanders wanted at all costs to relieve the steadily mounting pressure on the mountains around Montblanch and Valls and on the massif of Montsant and Tortosa. Although the progress of the Navarre Corps was slow, each day and each mile it advanced increased the danger for the Reds. If the Corps should succeed in cutting off the Red southern wing, the Reds would inevitably lose their strong positions in the mountain area of Falset and Reus, positions which were vitally necessary to their plans.

The commander of the Condor Legion was constantly aware of the favorableness of the situation. He was convinced that the two northern corps would not succeed

208

150

in bringing about a decisive victory on the Artesa de Segre sector, though the commanders of the northern army expected and hoped that this would be the case. The developments of the last ten days had served to substantiate the opinion of the Legion commander and had suggested to him the plan which he now put into action. On his own initiative, he decided to discontinue the air support of the northern corps and to concentrate all his forces on the sector occupied by the Navarre Corps. Together with this Corps, which had already shared so many victories with the Legion, he planned to drive a wedge against the enemy positions in Montblanch and Valls. Once these two towns had been captured, he assumed that the Corps would pivot towards the south, take the city of Tarragona, and then cut off the entire Red front along the Ebro and near Tortosa.

His decision was taken at a point when sudden and unexpected developments resulted in an entirely changed military situation, one which could just as well have justified completely different decisions.

The Red Relief Attack in Estremadura (See the map in Appendix 7)

On 4 January 1939 Nationalist leaders received the first, still unconfirmed rumors of a forthcoming Red relief attack in the southernmost area of the front, in the province of Estremadura. The attack was to be launched from the area north of Cordoba and to be directed against Seville.

The attack was launched sooner than the Nationalists expected, on 7 January. In a single, sudden blow, the Reds broke through the weak Nationalist defenses in the south and managed to insert a wedge some eleven miles deep along a front approximately nineteen miles long. The few ~~Nationalist~~ reserves stationed in the area were assembled to overcome a momentary setback occurring just before the final victory was achieved. General Franco dispatched only one division at first, which was withdrawn from the Catalonian front. It was bound to take weeks before it arrived in the south. On 7 January, Franco also ordered the transfer of both Spanish air brigades to Estremadura. Once again it seemed that, for reasons of prestige (as in

150 - a

209

the cases of Brunete and Teruel), the entire offensive in the north was to be abandoned in order to restore the situation in the south.

210

1518

The commander of the Condor Legion was firmly convinced of the inadvisability of changing the strategic plan in any way which might jeopardize the Catalonian front. The Brunete affair came to his mind, when the Legion had to leave its preparations for the assault on Santander and fly to Madrid in order to salvage the situation. Nevertheless he made all the necessary arrangements to transfer his units to the southernmost point of the front, on the following day if need be, in the hope that they could quickly restore the ground situation from the air and then return immediately to the north.

On the following day, 7 January, there was a lull in the action in the south. The Red advance had come to a halt, and it looked as if the attack had merely been a last and desperate demonstration of strength. The Legion remained in the north, and the offensive in Catalonia was continued.

Continuation of the Offensive in Catalonia

8 January marked the beginning of the second phase of the Catalonian offensive, the phase during which the Navarre Corps was to bring about the final, decisive victory. In the early morning the German antiaircraft artillery batteries began their ground fire against the enemy targets, assisted by the Spanish artillery. The German bombers appeared and dropped their loads over the passage into the Montsant mountains. The fighters took up their dual mission of low-level attacks on ground targets and combat with the Red fighters, now hurrying to the scene of action. The German tanks moved to the head of the attack group. Although it was snowing and the battlefield was covered by impenetrable haze, the Navarre Corps attacked with its usual elan.

The Reds defended themselves bravely, but during the afternoon they were forced to give way before the repeated attacks of the Navarre divisions. Once again the 4th and 5th Divisions covered themselves with glory.

German antiaircraft artillery caught the Red divisions as they tried to retreat into the mountains and scattered them with heavy casualties. The Red reserves

211

152

standing by on the other side of the mountains were destroyed by the German bomber squadrons.

By the early afternoon of 8 January, the entire Montsant massif had been occupied by the Nationalists. The divisions were advancing on Montblanch. Their right flank was completely unprotected, but no one seemed to worry about it; the left was well covered by the advance of the Italian Corps.

On the morning of 9 January there was heavy fog to contend with. Nevertheless the German bombers climbed up above it, where visibility was better, and bombarded the Red retreat routes leading out of the mountains on the other side of Montblanch and Valls. They flew as far as Tarragona, bombing the harbor and the railway depot. The German tanks were still engaged in the assault, while the antiaircraft artillery kept the Red tanks off.

The Italian Corps was right behind the advance force, and the Aragon Corps had also gotten under way. Under the pressure of the Navarre Corps, the enemy was already beginning to abandon his positions as far up as Balaguer and Artesa de Segre.

The Marroqui Corps now crossed the Ebro in broad front.

By the evening of 11 January, the Navarre divisions had reached the western outskirts of Montblanch.

On the morning of 11 January, the German bomber group had carried out a series of attacks on Montblanch and on the road leading via Valls to Tarragona. The fighter group, approaching over the Mediterranean, had attacked the enemy airfields at daybreak. Disregarding the Ratas, which had fled into the air to escape destruction, the Me-109 squadrons flew in at low altitude, raking the fields with their fire, then climbed up to attack again. When they returned to their base, they reported the destruction of twelve enemy aircraft, set on fire in front of their hangars.

At noon [redacted] on the road between Montblanch and Valls, German heavy antiaircraft artillery units came upon a Red artillery battery which was just shifting position and destroyed it.

During the afternoon the Navarre Corps took the city of Montblanch in a single

212

152 - a

assault and immediately began pursuit of the enemy troops, fleeing in disorder. The Corps took possession of the pass to Valls, from which one can look out over the coastal plain below.

213

153

Crowds of Red deserters, half-starved, went over to the Nationalists. A third of the Red force was now in the area bounded by Tortosa, Tarragona, Reus, and Falset.

In a conference to discuss the continuation of the operation, General Solchaga, commander of the Navarre Corps, and General Freiherr von Richthofen decided to march on to Tarragona. This decision ~~were~~ decided the final outcome of the war.

Valls was taken at noon on 14 January.

The attack was continued on the early morning of 15 January. Roadblocks set up by the enemy to delay the advance were removed by the heavy antiaircraft artillery units, moving out in front. The Nationalist troops left the mountains along two narrow roads.

In a number of attacks, the bomber group of the Condor Legion supported the advance of the Navarre divisions. The dive bombers were employed against naval targets and succeeded in destroying three steamers in the harbor of Tarragona. The naval air squadron continued to keep the ocean and the coast under surveillance. Thanks to the Legion, all enemy transport lines -- ocean traffic, railways, and highways -- were disrupted.

At this point the race began between the battalions of the Navarre divisions and the German antiaircraft artillery forces to see which could ~~reach~~ cover the twelve miles down to the sea more quickly. The heavy antiaircraft artillery had to drop out of the race, but one of the light batteries (under the command of First Lieutenant Deventer), personally entrusted with the thrust to Tarragona by the commander of the Condor Legion, suddenly appeared at the head of the Navarre Corps, made its way past the Spanish troops and, detouring around ruined bridges and craters in the road, reached the outskirts of Tarragona by the afternoon, where it fired its tracer shells with good effect against an enemy counterattack. At the side of the first Navarre battalions, the battery forced its way into the city and, after a short but violent struggle, managed to reach the harbor.

As darkness fell, the advance forces of the Marroqui Corps also entered the

214

153 - a

city and made contact with their comrades from the Navarre Corps. The encircling ring had been closed; one-third of the Red Catalonia army was trapped.

The Pursuit Action to Barcelona and the Pyrenees (See the maps in Appendices
7 and 10)

The operations which took place between Tarragona and Barcelona, in the areas of Vendrell, Villafranca, Villanueva, Igualada, and Manresa, had little in common with a battle. They were rather the breathless pursuit of an enemy fleeing in disorder, an enemy who had no idea whether he would succeed in reaching the safety of the border or whether the fates would trap him before he could get to it.

The divisions of the Navarre and Marroqui Corps encountered hardly any resistance.

The Italian Corps and the three northern corps were still engaged in combat, inasmuch as the Reds in the north were not yet aware of the defeat which had taken place in the south.

The Urgel Corps dispatched individual task forces into the Pyrenees, where there were still scattered pockets of enemy resistance.

The two southern corps along the coast made up mobile columns of tanks, bicycles, cavalry, infantry on trucks, and light artillery to set out in pursuit of the enemy. Thousands of Red soldiers were taken prisoner each day, and the stocks of captured materiel grew larger and larger, the closer the pursuers came to Barcelona. The Reds no longer took time to blow up bridges and roads. Disorganization was complete.

The Condor Legion units pursued the enemy on the ground, on the water, and in the air -- wherever they found him. Day and night they were busy over the retreat routes, the harbors, and along the coast.

Any large-scale operation designed to encircle the enemy would have been pointless in view of the complete chaos prevailing among his ranks. The important thing now was to keep him on the run by continuous pursuit.

Pursuit operations were hampered by cold, snow, and fog more than by the enemy.

The Red air forces still offered stubborn resistance; the Red antiaircraft artillery units were obviously beginning to suffer from a shortage of ammunition.

216

155

The Red troops seeking refuge in the Pyrenees were stopped by the French at the border, where they were disarmed and taken prisoner.

By 23 January the Spanish corps and the Italian Corps were within reach of the Catalonian capital, the Marroqui and Navarre Corps along the coast west of the city, and the Italian force to the northwest, at the edge of Montserrat, and at the Sabadell airfield.

For two days and nights the Condor Legion had been bombarding the harbor of Barcelona, in order to frustrate any escape attempt on the part of the Reds. The heavy antiaircraft artillery batteries were firing on the city. It was here that the last aerial combat with the Rata and Curtiss fighters took place.

The Generalissimo ordered the Marroqui, Navarre, and Italian Corps to form a ring around the southwest, west, and north of the city and to stand by for the order to attack simultaneously from all three sides. He still had hopes of being able to occupy the city without bloodshed and without any further destruction.

But on 26 January the troops of the Marroqui Corps, in the southwest of the city, could be held back no longer -- they forced their way into the city at 1500 hours and encountered resistance at several points.

The Navarre Corps followed the example of the Marroqui Corps, and by 1600 hours its battalions were also engaged in trying to force their way into Barcelona.

At 1700 hours the Italians began to march on the city.

By nightfall the last battle noise had died away, to be replaced by the rejoicing of the liberated population.

The Condor Legion immediately went to work to prepare the Sabadell airfield for its units. It took no part in the Spanish triumph, but let the Nationalists celebrate their victory alone.

Victory celebrations kept the Marroqui and Navarre Corps in Barcelona for four days. In the meantime the Italian Corps had moved to the coast and began pursuit operations.

The Condor Legion took twenty-four hours out to have the most necessary repairs done on their aircraft, which had seen very hard service during the past few weeks, at the airfields of Lerida and Sabadell. After this brief respite, the Legion units again resumed pursuit operations in the Pyrenees.

While the Italian Corps had already reached the town of San Feliu on the coast, the Navarre Corps was advancing by forced marches towards Gerona.

The Maestrazgo Corps had captured the town of Vich, the Aragon Corps that of Berga, and the Urgel Corps was engaged in clearing the enemy out of the mountains along the border towards Gerona.

The Condor Legion ordered its bomber squadrons to destroy any trains heading for France and to sink any ships or lighters appearing along the coast. The fighter squadrons carried out pursuit operations as far as the French border. The antiaircraft artillery batteries were distributed along the main route of march.

The last enemy resistance, in the area of Figueras, was quickly broken. The Maestrazgo Corps was the first to reach the border.

On 6 February German fighters carried out a low-level attack at dawn and managed to destroy eleven Ratas and Curtiss' which were caught on the ground. One Curtiss which had just taken off was shot down in flames, while fifteen more aircraft were so badly hit that they could no longer be repaired.

On the same day the bomber squadrons attacked six Red steamers near Puerto de la Selva; one was sunk, one set on fire, while the rest fled. On 9 February, the bombers flew their last mission over the highway north of Figueras.

On 8 February the naval air squadron on Mallorca received word that a Nationalist uprising against the Reds had broken out on the neighboring island of Menorca.

the squadron
Hereupon they took off for the Bay of Ciudadela, in the northwest of Menorca, and - using it as a base -- bombarded the city of Mahon, where the Reds were still holding out, during the night of 8/9 February. By the morning of 9 February, all of Menorca was in Nationalist hands. The heavy antiaircraft artillery batteries were with-

218

156 - a

drawn to Sabadell, and the fighter squadrons soon followed. The bomber squadrons returned to Lerida. On 9 February Generalmajor Freiherr von Richthofen ordered the Condor Legion to relax at Sabadell.

On 10 February, all the Spanish corps reached the French border.

The campaign in Catalonia was over. It was too soon to tell whether this also meant the end of the war as a whole.

XIII. The Last Battles in the Liberation of Spain (II February - 29 March 1939)¹⁷

(See the maps in Appendices 7 and 11)

On 10 February, just one day after Generalmajor Freiherr von Richthofen had told the Condor Legion that it could rest for a bit, the bomber squadrons were called into action once more. During the forenoon, fourteen He-111's bombarded the harbor and rail facilities of Valencia; the attack was repeated in the afternoon by a force of nine He-111's. The reconnaissance squadron gathered data which might be necessary for new attacks, either on the Catalonian front, near Guadalajara, near Toledo, or in Estramadura.

While these missions were being carried out, the Legion also devoted itself to overhauling and repairing its equipment and to making preparations for the future.

After the victory parade in Barcelona, with all the units of the Condor Legion participating at the express wish of General Franco, the Legion squadrons were transferred back to their old bases near Zaragoza. From these bases practice flights were carried out over the sector of the Guadarrama Mountains and in the Teruel area; the purpose of these flights was less to train the Legion crews than to keep the enemy worried and confused.

In spite of the political deliberations already under discussion, Nationalist leaders did not forget for a moment that hostilities could not be regarded as ended until the flag of liberation was flying over every single Spanish city. Towards the end of February it became clear that two more offensives in the south would be necessary, one in the Toledo sector north of Cordoba and the other in the Castellon area on the coast.

17 - Werner Beumelburg, The Struggle For Spain, The Story of the Condor Legion, Gerhard Stalling Verlagsbuchhandlung, Oldenburg/Berlin (Karlsruhe Document Collection)

Dagobert von Mikusch, Franco Liberates Spain, Wegweiser Verlag, Berlin.

The Condor Legion assigned its reconnaissance squadron to reconnoiter the area of Toledo. The units moved back to their old airfields at Avila, Salamanca, and Escalona.

In the meantime signs of collapse among the Red forces were growing more and more evident. At the beginning of March the first fighting took place in Madrid between the Radicals and the group around General Miaja, which was in favor of suing for peace. The outcome of this fighting was still uncertain. German pilots circling over the city, watched the slow death struggle of the capital but did not intervene, in order to avoid increasing the number of victims of the troubled country.

The Red Navy, which left Cartagena for French North Africa in order to avoid falling into Franco's hands, was attacked with bombs and torpedos by the naval air squadron from Mallorca. The Legion's bomber squadrons attacked Valencia, and burning ships in the harbor gave evidence of their effectiveness.

On 7 March, an attempted Nationalist uprising in Cartagena was put down, although the Condor Legion did its best to provide support from the air. The Radicals succeeded in gaining power and embarked upon what was to be the last bloodbath among the population.

The Red fleet had succeeded in its flight to Bizerte in North Africa, where it now lay at anchor under French surveillance.

On 10 March the staff of the Condor Legion moved to Toledo in order to make preparations for the coming offensive. The units had already been transferred into the operational area.

On 13 March it looked as though General Miaja were gaining the upper hand over the Radicals in Madrid. During the day the German fighter squadrons flew four missions over the capital in order to demonstrate the authority of the Nationalists and thus to hasten the surrender of the city. But the Red antiaircraft artillery and fighter aircraft still remained in action there.

On 16 March, in Burgos, the Generalissimo discussed his own evaluation of the

situation with the commander of the Condor Legion. Franco once again confirmed his intention to launch one last offensive and requested the assistance of the Legion.

On the following day the German air units began their preparations for the final act of the long struggle to liberate Spain.

On 23 March, the divisions having assembled, they were deployed for combat in the Toledo area.

On 25 March one last attempt to negotiate with the Reds broke down.

The next day the Nationalist southern army began its attack, which carried it easily over the enemy front. There was simply no more resistance! Prisoners and deserters were rounded up by the thousands. The flight of Red leaders from Valencia and Madrid was in full swing.

On 27 March the bomber squadrons, the fighter squadrons, and the reconnaissance squadron of the Condor Legion were employed to the full. The Spanish Toledo, Maestrazgo, and Navarre Corps, together with the Italian Corps, reported the successful breakthrough of the Toledo front. The southern army had already taken 10,000 prisoners.

By 1000 hours the first white flags began to appear in Madrid and Aranjuez. The German fighters were ordered to discontinue their low-level attacks and the bomber squadrons to release no more bombs.

On the morning of 29 March, hostilities came to an end. During the night the Red radio stations had reported the subjugation of the last Spanish cities.

The German reconnaissance pilots reported, "White and Nationalist flags over all of Red Spain". Thereupon the Spanish corps modified their advance to an occupation action. The German bombers and fighters, in perfect formation, flew in flight, squadron, and group strength over the Madrid, Aranjuez, and Toledo area once more, to demonstrate the strength of Nationalist Spain and to salute impressively the cause for which they had been fighting for the past three years.

From the first to the last day, the Condor Legion -- in spite of the friction

and difficulties often involved -- had carried out the tasks assigned to it in an exemplary fashion, thus giving ample evidence of the effectiveness of its leadership and its organization. The decisive factors in the success of the Legion's operations were the high standard of training, the fighting spirit, the flexibility, and the adaptability of each Legionnaire -- from the commanding officer down to the last soldier. There is no doubt that Franco's brave troops could not have prevailed alone and that the role played by the Condor Legion was decisive, not only in the individual phases of operations but also for the final outcome of the war. And this fact has always been fully recognized by the Spanish.

XIV. The Losses Suffered by the Condor Legion

It is impossible to reconstruct an overall picture of the personnel and materiel losses of the Condor Legion from the sources available to us.

Werner Beumelburg (The Struggle for Spain, the Story of the Condor Legion)¹⁸ lists the following personnel and materiel losses:

Flying Forces

- 1 - One Ju-52 (K/88) crashed over Jerez de la Frontera in mid-August 1936
- 2 - One He-51, piloted by First Lieutenant Eberhard, Commander of the first fighter squadron, shot down in aerial combat over Madrid in the summer of 1936
- 3 - First Lieutenant von Kessel, squadron commander from the A/88, killed in action in the fighting in Asturia
- 4 - Two He-51's (J/88) shot down in flames on 9 February 1937 during aerial combat with Red fighters
- 5 - One aircraft (type unknown) shot down by Red ground defenses
- 6 - One fighter aircraft (J/88) shot down in flames on 1 April 1937 by Red artillery during a low-level attack
- 7 - Two He-70's (A/88) shot down in aerial combat on 10 July 1937 during the battle of Brunete
- 8 - One bomber (K/88) missing in action on 17 December 1938
- 9 - One bomber (K/88) crashed on 17 April 1938 while en route from Merilla to Seville for an attack on the harbors of Almaria and Cartagena (six dead)
- 10 - Heavy losses (no figures available) among the He-51 squadrons at the end of April 1938 during aerial combat with Ratas and Curtiss'
- 11 - Losses (no figures available) in the bomber group during the night of 9/10 July 1938 in combat with Red night fighters

¹⁸ - Beumelburg, op. cit., pages 28, 31, 60, 69, 73, 102, 118, 119, 193, 229, 231, and 274.

Antiaircraft Artillery Forces

No losses recorded, although it seems very unlikely that there should have been none in view of the fact that the antiaircraft artillery batteries were employed primarily in ground operations (the light batteries in joint operations with the infantry).

Signal Communications Battalion

On 11 June 1937, while engaged in setting up a communications line on the Buscargui (during the fighting at Bilbao), the Battalion suffered heavy losses (no figures available); on 3 January 1939, enemy low-level air attacks at Curbellls claimed three dead and several wounded.

Exact Figures on Personnel Losses of the Condor Legion

from 1 November 1937 to 31 October 1938¹⁹

Killed in Action

Flying Forces	A/88	5
	AS/88	5
	J/88	10
	K/88	24
Antiaircraft Artillery	F/88	8
Signal Comm. Forces	In/88	2
Condor Legion Staff	S/88	1
(Army)		2
(Navy)		1
		Total: 58

Died of Illness 35

Taken Prisoner 25 (7 later exchanged)

19 - Generalleutnant Volkmann, "Kurzer Erfahrungsbericht über den Einsatz der Legion Condor in Spanien in der Zeit vom 1.XI.37 bis 31.X.38" (Brief Report on the Employment of the Condor Legion In Spain from 1 November 1937 to 31 October 1938), pages 21 and 22 (Karlsruhe Document Collection).

225

163

During the same period, the aircraft losses of the Legion were as follows:²⁰

As a result of enemy activity (confirmed):	35
As a result of enemy activity (presumable):	2
As a result of conditions beyond anyone's control:	9
As a result of technical deficiencies:	19
As a result of faulty operation:	<u>31</u>
Total: 96	

Personnel losses entailed in the above:

Killed	41
Wounded	18
Taken prisoner	23

Generaloberst a.D. Jaenecke has the following to say in connection with the losses of the Condor Legion:

"The casualties suffered by the Condor Legion in Spain were very low in terms of numbers. They were, in fact, ridiculously low when compared with the exaggerated propaganda reports of the world's newspapers, which mentioned thousands of German dead on the battlefields of Madrid. All in all, to the best of my recollection, Germany lost no more than approximately 420 men, including the 82 killed during the Red bombardment of the armored vessel, "Deutschland", near Ibiza. Moreover, I venture the opinion that the majority of these 420 were killed as a result of careless driving on the torturous winding roads in the mountains of Spain."

Generaloberst a.D. Jaenecke has already mentioned (in Section I of Chapter III) the heroic deaths of Flight Captain Henke and First Lieutenant Freiherr von Moreau, commander of the air transport force and, later, of the first fighter squadron.

20 - Volkmann, op. cit., page 22.

Colonel a.D. Freiherr von Beust comments on the losses among the flying units as follows:²¹

"In view of the number of missions flown and the degree of success achieved, the losses (casualties and prisoners) suffered by the Legion during its employment in Spain were relatively low. This fact is naturally due in great part to the high quality of both officers and men, as we have already mentioned. The author has no exact statistics at his disposal, but feels himself justified in stating that the Legion's losses in dead, wounded, and prisoners as a result of enemy activity were far lower than the estimates made at the time by the various Luftwaffe staffs. The conclusions drawn from this were in part erroneous and, unfortunately, far-reaching in their effects, as will be discussed in greater detail later on. In the first place, the low losses must be attributed to the Legion's effective tactics and to its extremely high standard of training. It must be borne in mind, of course, that a good many of the missions flown -- particularly those in support of ground operations -- were relatively safe and easy, either because the aircraft spent such a very short time over enemy territory or because of the inadequacy of the enemy's air defenses. The losses due to weather factors, technical deficiencies, or faulty operation were greater than those attributable to direct enemy activity.

The Legionnaires who were taken prisoner by the enemy after being shot down over the enemy lines had the roughest time of it. During the entire campaign in Spain, there were no more than thirty men from the flying units who managed to survive enemy captivity, i.e. who were not killed immediately after capture. Not only did the prisoners have to contend with the abuses and atrocities traceable to the ideological and political background of the war and to the mentality of the Spanish people;

21 - Von Beust, op. cit., Part A, pages 80 and 81.

227

165

their position was all the more precarious due to the fact that they were not covered by any international agreements pertaining to the treatment of prisoners of war.

The fate of the majority of those taken prisoner by the Reds has never been clarified; there is no doubt that a good many were killed immediately after capture, while others died of illness or maltreatment in the prisons of Madrid, Barcelona, and Valencia. It is interesting to note in this connection that the conventions of honorable capture and humane treatment of prisoners of war/disregarded even more thoroughly by the Spaniards among themselves. This attitude was prevalent even among the top-level commanders of both the Red and the Nationalist forces."

Colonel a.D. Freiherr von Beust also mentions the first loss suffered by the bomber group -- flying in bad weather, a bomber crashed in the Sierra de Grandos range at the beginning of December 1936; the commander of the 1st Squadron was killed on this occasion.

Chapter IV

The Experience Gained during the Employment of the Condor LegionI. Evaluation of the Experience Gained, within the Condor Legion Itself and within the Luftwaffe as a Whole²²

Apart from the political objectives Hitler hoped to achieve, the main purpose behind the employment of the Condor Legion was the gathering of information and experience in regard to leadership, commitment, training, and equipment. In addition, it was hoped that employment under actual wartime conditions would firm up the structure of the young German Luftwaffe and establish a cadre of combat-experienced flyers, antiaircraft artillery, and signal communications personnel of all ranks and specialties.

Within the Legion itself, the experience gained was evaluated without delay and without the application of time-consuming formalities, and recognized deficiencies and errors were corrected without further ado. During the first six months of its employment, for example, a good many improvements were made in respect to organization, command channels, signal communications lines, etc., so that previously necessary improvisations and stop-gap measures could soon be dropped, permitting a more purposeful and economical method of commitment. Such improvements were made above all in the fields of supply, airfield construction and enlargement, telephone and radio communication, distribution of motor vehicles to the various units, and equipment of aircraft and crews, as well as on the logistics and troop welfare sectors.

In Germany (Wunstorf), an especially created "Spanish Training Squadron for the Bomber and Long-Range Reconnaissance Forces" (the 10th Squadron, 27th Bomber Wing) trained the bomber crews in accordance with the experience already gained in Spain before they were sent to join the Legion.

22 - The material contained in this Section is based of the following sources:

166 - a

229

Footnote 22 (cont)

Von Beust, op. cit., Part A, pages 83 and 84; Part C, pages 95 and 96; and Appendix 2.

Colonel a.D. Aldinger, "Bereitstellung und Einsatz deutscher Flakartillerie in Spanien" (The Deployment and Commitment of German Antiaircraft Artillery Forces in Spain) (Karlsruhe Document Collection).

This training covered the following:

- 1 - Special training in the operation of the He-111 for crews coming from the Do-17, Ju-86, or Ju-52 units. This included technical orientation as well as training in the operation of weapons and equipment.
- 2 - Practice flights in unit formation, practice with live bombs, navigation flights, night take-offs. During the course of this training the crew members learned to work smoothly as a unit.
- 3 - Theoretical Training: (concurrent with practical training) tactics and principles of employment applicable to Spain; ground combat instruction and orientation on the ground situation in Spain; recent experience gained in commitment in Spain; geography, the country, and the people; association with the population and language lessons.

After three to four weeks the crews were reported ready for assignment. It goes without saying that the squadron was provided with the most up-to-date information on experience gained in Spain and on the military situation at any given time. Both the director of the training squadron and all its instructors were personnel who had had experience in Spain.

Altogether a total of approximately 200 crews were prepared for assignment with the Condor Legion by the German training squadron.

The fighter forces, too, had such a training squadron for the fighter pilots scheduled for assignment in Spain.

There was no special training agency to orient the members of the antiaircraft artillery units in accordance with the experience gained in Spain. But a number of artillery officers returning from Spain were assigned to the training center at Berik.

The officers and enlisted men of the Condor Legion had been requested to keep complete records of the experience gathered during operations and to make suggestions when appropriate. The reports were immediately transmitted to the Commander

167 - a

231

in Chief of the Luftwaffe in Germany for evaluation and study, and the conclusions drawn from them were put into effect without delay in the organization and training of the Luftwaffe.

Officers and even whole staffs from the German Luftwaffe frequently visited Spain in order to observe operations there for themselves.

These visits, which were not very popular with the Condor Legion, often failed in their purpose due to the fact that the visitors frequently accepted fleeting impressions and unique occurrences as generally valid experience.

After each rotation of personnel, the home-coming Legionaires were questioned in regard to experiences, operations, and impressions gained. Steps were then taken to ensure that information acquired in one unit should be made generally available to all.

Between April and October 1937, the period during which the entire Legion was gradually replaced, the build-up of the Luftwaffe in Germany was in full swing.

This build-up was not only a build-up in terms of strength (the number of units and aircraft, the growth of the ground organization, etc.), but also a development in terms of planning, the establishment of operational and training guidelines, the expansion of technology and organization -- all aspects which had not been fully worked out during the previous three or four years of build-up activity but which were still in process of development.

Under these circumstances, it is understandable that the reports from Spain, which became available in ever greater number as more and more Legionaires returned to Germany after a year's combat experience, were accorded much greater importance than would have been the case if the German Luftwaffe had already been an established entity. A good many aspects of the tactical, organizational, and technical experience gained in Spain were arbitrarily made into basic principles of Luftwaffe commitment. In this process one thing was frequently overlooked -- namely that all this experience was based on the conditions peculiar to the war in Spain and had been gathered by a few relatively weak air units, operating at group strength at most, and by a force of special composition and unusually high quality.

In any case the principles of commitment and organization incorporated into the German Luftwaffe between 1937 and the beginning of World War II had far-reaching effects and remained significant until 1945, when World War II came to an end.

The returning Legionaires took their places in all the Luftwaffe units, where most of them were assigned as instructors for the entire unit. They held positions of comparable influence in the Luftwaffe High Command, in higher-level Luftwaffe staffs, in schools and training centers, and within the antiaircraft artillery and signal communications forces.

During the course of the Spanish Civil War, the exchange of information and experience between the Condor Legion and the Luftwaffe High Command had developed into such a smoothly functioning procedure that it is really no wonder that the entire German Luftwaffe was strongly adapted in every respect to the commitment of the Condor Legion and the conclusions drawn therefrom. After all, apart from the political considerations which motivated Germany's participation in the Spanish Civil War, the main military purpose was surely to put into practice the theoretical principles worked out by Luftwaffe leaders prior to 1936. As we have already demonstrated, this purpose was completely fulfilled; in addition to the many positive results, there were also some which turned out to be negative in the long run, as we have just seen.

III. The Experience Gained By the Condor Legion and its Effects on the Growth, Organization, Equipment, Training, and Commitment of the Individual Luftwaffe Branches

Flying Units

1) Aerial Reconnaissance Forces²³

The aerial reconnaissance squadron (A/88) of the Condor Legion had a dual mission, namely the carrying out of reconnaissance activity for the command headquarters in charge of ground operations and for the Legion itself.

The mission on behalf of the army forces included tactical, strategic, and combat reconnaissance as well as artillery reconnaissance.

The mission for the Legion itself consisted primarily in target reconnaissance and in assessing the effectiveness of bombing attacks. The reconnoitering of enemy airfields, which was made extremely difficult by the enemy's practice of switching from one field to another, was a specialized aspect of the Legion mission.

The squadron was not fully occupied by reconnaissance activity, partly because of the lack of recognizable targets in view of the particular kind of warfare being waged in Spain and partly because there was less need of such services, since the Spanish military leaders were already fairly familiar with the lay of the land, and thus already had at their disposal a good deal of data and exact information which, in a normal war, would have had to be obtained by means of aerial and other reconnaissance. Since there were Nationalist sympathizers among the population everywhere, with whom contact could more or less be maintained, and since the agents of the Nationalist espionage service were able to provide a good deal of information, there was all the less need for aerial reconnaissance.

As a result, the aerial reconnaissance squadron could also be employed in

23 - The material contained in this section is based on the following sources:
Beumelburg, op. cit., passim and especially pages 60, 61, and 174.
Volkmann, op. cit., page 11

235

170 - a

Footnote 27 (cont)

Jaenecke, "Angriffe auf die Elektrizitätswerke in den Pyrenäen" (Attacks on the Power Plants in the Pyrenees), excerpt from a letter to General der Flieger a.D. Deichmann, dated 13 November 1956.

bomber missions, and its organization reflected this duality of activity, viz:

1 flight for long-range reconnaissance

1 flight for close-range reconnaissance

3 flights for bomber missions.

Frequently it happened that all available aircraft, including the two reconnaissance flights, were temporarily assigned to bombardment activity.

One of the most noteworthy successes achieved by the reconnaissance squadron was the identification of an enemy force consisting of at least six divisions being assembled near Tortosa (on the eastern bank of the lower course of the Ebro) in mid-July 1938, during the Nationalist offensive against Valencia. Thanks to the reconnaissance squadron, the danger of a surprise assault of the Red troops against the rear of the Nationalist attackers could be eliminated.

The long-range reconnaissance mission carried out by Squadron Captain First Lieutenant von Kessel on 1 March 1937 deserves special mention. On this occasion the squadron had been requested to find out whether the newly established railway line between Utiel and Cuenca (midway between Valencia and Madrid) were ready for use. At 0900 hours, First Lieutenant von Kessel took off in his He-70 from the Seville airfield, intending to cross the front line near Granada (in order to avoid the enemy air defenses over Madrid) and then to approach the target from the south. Because of poor weather (danger of icing), however, and inadequate fuel, he was forced to land in Teruel, at the field held by the Nationalists there. Radio communication with his home base had also failed. The Spaniards at Teruel, however, seemed to be somewhat suspicious and refused to authorize his take off before having checked with their headquarters in Zaragoza, which certainly would have taken some time. Thus, First Lieutenant von Kessel, after having refueled his machine, simply took off from the fuel station before the eyes of the astounded Spaniards. In the meantime, the ~~in~~ cloud cover had grown denser and the danger of icing had increased. Despite these obstacles, the crew of the He-70 took their time about covering the

entire stretch between Utiel and Cuenza, taking photographs. They ran into heavy enemy machine-gun fire over Cuenza, and were forced to slip through enemy territory under an extremely low-hanging cloud cover; at 1900 hours, after having crossed the enemy lines north of the Guadarrama Mountains -- all by compass -- they landed safely in Salamanca, where they were received with rejoicing by their comrades, who had already given them up for lost.

During the summer and autumn of 1938, the He-45's of the reconnaissance squadron were employed with great success in directing both flat and high-angle fire from the Nationalist artillery batteries. On the whole, however, artillery reconnaissance was a very small part of the mission of the squadron, possibly because the training standard among the Spanish artillery units was too inadequate to permit them to take full advantage of such carefully planned coordination; the training standard, as a matter of fact, was not even adequate to fit the Spanish units for perfectly normal, but slightly more difficult artillery missions. It was also technically difficult to establish and maintain adequate contact between the aircraft and the Spanish artillery.

The inadequacy of the airborne armaments of the long-range reconnaissance aircraft (especially the He-70) made its employment difficult and often necessitated a fighter escort. The old-fashioned He-45 was even worse in this respect and could be employed only with fighter escort.

German Luftwaffe leaders, however, failed to draw the proper conclusions from the Legion's experience in this regard. To be sure, by the beginning of World War II the He-70 had been replaced by the much more suitable Do-17 in the long-range reconnaissance units, but the close-range reconnaissance units of the Army were still equipped with the out-of-date He-45 and He-46 even during the campaign in Poland, so that their record of losses suffered was the highest of all the flying units. Despite the experience gathered in Spain, the close-range reconnaissance units were committed without fighter escort, which, as a matter of fact, was also contrary to the usual practice during World War I. At the focal points of action at the very least,

238

172 - a

fighter escorts ought to have been employed.

The documentary material available makes no mention of night reconnaissance flights. Presumably these were not necessary during the Spanish Civil War.

239

173

The activity of the aerial reconnaissance of the Condor Legion brought no completely new revelations, either in the employment or in the organization of such forces. Close-range reconnaissance units (in contrast to the bomber units, which were just beginning to develop) had already brought a wealth of experience from World War I, experience which was carefully evaluated and applied by the National Army ("eichswehr) in Germany. Thus, apart from certain revelations on the technological sector, the experience gained during the Spanish Civil War was not new.

It may be interesting at this point to mention the mission flown by an A/83 flight under the command of Second Lieutenant Runze. The flight had been ordered to attack the power plants on the southern slopes of the Pyrenees in order to disrupt electrical power production. The three participating aircraft, fully loaded, flew over the high mountains several times and, in low-level attacks, managed to destroy transformer stations and feeder lines so effectively that the plants were knocked out of operation for three weeks. This was undoubtedly a strategic success; it was never repeated, however, presumably because Nationalist leaders, who hoped to be able to capture the area soon, wanted to leave the plants undamaged so that they might use them themselves. Nevertheless, one wonders why Nationalist leaders failed to order such strategically effective attacks at an earlier point (especially since it was clear that the war was going to be a long-term one) in order to disrupt the supplies of electrical power to the industries in Catalonia, for after all the Reds were fairly dependent upon these industries.

German Luftwaffe leaders concluded from this successful mission that it must be possible to achieve like results with aircraft of a single type (i.e. not with mixed units) operating in very small groups. As the Chief of the Luftwaffe General Staff pointed out in June 1939 during a General Staff trip, this possibility had to be exploited as fully as possible. On the basis of the Spanish mission it was assumed that even the smallest units were capable of achieving a high degree of effectiveness.

Thus, from this point of view, the Condor Legion did have a certain amount of influence on the later conduct of strategic air operations, although the scope of this type of activity in Spain had been very small indeed.

2) Bomber Forces²⁴

Strategic Bombardment Missions

The instances of strategic bombardment by the bomber group (K/88) of the Condor Legion are extremely rare. The first examples were probably the attacks on Cartagena and Alicante as well as some of the Ju-52 night attacks on the rear area of the enemy forces near Madrid during the winter of 1936/37. Later on, until the end of the war, in fact, there were only sporadic attacks (carried out during daylight hours by the He-111 units) against enemy harbors, rear area communications lines, etc., and only a few of these were of real strategic significance.

Nocturnal Missions

It is clear from the above that the experience of the Condor Legion in strategic air operations was primarily in the field of night missions. The Legion's bomber group was the first to discover a good many of the factors which go to make up the problems and the prerequisites for success of nocturnal bomber activity, to deal with these factors on the spot, and to improve the traditional methods of employment through constant evaluation and application of the experience gained.

As a result of the Legion's activity in Spain, more and more emphasis was placed on the training of bomber crews for night missions after 1938. Prior to this time it had happened all too often that German flying personnel --

24 - Von Beust, op. cit., Part C.

especially the pilots -- who were absolutely reliable for daytime missions and thus carried on the unit books as fully capable of immediate commitment, were completely unfit for night operations. The fault, of course, lay with the training program of the schools and in the Luftwaffe units, a program which tended to avoid the whole problem of night flying and contented itself with giving the students one or two night take-offs and a very few navigation practice flights at night.

Cross-country flying, bad-weather flying, bombing practice, and practice flights under simulated combat conditions were all either ignored completely or sadly neglected in the night flight training program. Moreover, some top-level leaders were of the opinion that the fast bombers such as the He-111 were completely unsuited to night employment from the standpoint of technical operation and that they should be restricted -- for reasons of flight safety -- to daylight employment.

This situation changed radically after Spain. Any crew booked as fully capable of employment at the front was expected to have mastered all the problems of nighttime flying. In accordance with this new requirement, the training of bomber personnel was corrected and expanded.

The missions of the Condor Legion had proved beyond a doubt that the bombers, if they should be prevented by inferior performance, heavy enemy defenses, or any other reason from operating over enemy territory during the day, could fulfill their missions just as well and just as successfully during the night, perhaps even with less difficulty than during the day -- in any case, at least, with fewer losses.

The bomber group of the Legion was the first to demonstrate the possibility of the concentrated employment of bomber aircraft during the night and to develop this principle. Fundamentally, it was the procedure developed in Spain which was used during the long period of German night bombardment attacks on England during 1940/41. Thus, four years later, in spite of the changed conditions and the more advanced weapons technology, the experience gained and the procedures developed in Spain very definitely made themselves felt.

A prerequisite for the successful employment of bomber aircraft during the night was the number and location of airfields available to the unit as emergency, jump-off, or alternate landing fields. In addition to those factors pertaining exclusively to the ground organization (size and surfacing of the runways, supply and billeting facilities, etc.), the following tactical factors were of paramount importance: distance from the target area, approach routes over friendly and enemy territory, navigational aspects, geographical location of the emergency airfield concerned (nearness to mountains), weather conditions, distance away from other alternate fields, and things of this sort.

In Spain it was almost never possible to meet all of these conditions satisfactorily in accordance with the views which prevailed at that time regarding the optimum conditions for night bomber activity. As a result the bomber units learned to overcome the obstacles placed in their way and to get along with improvised solutions without jeopardizing thereby the effectiveness of the mission concerned.

The crews learned to take off and to land ~~xx~~ with fully laden aircraft on runways that were too narrow and to get along without the usual obstacle lights and signal lights they were accustomed to at the airfields. Despite the nearness to the high mountains and the extremely limited radio and flight safety facilities, bad-weather flights and landings had to be carried out. The practical knowledge and experience in the carrying out of concentrated bombardment missions during the night under the most primitive of conditions stood them in good stead later on. And all this experience was evaluated by German Luftwaffe leaders and then applied in the program training and in the planning of commitment, so that it was able to make itself felt during World War II -- especially during situations which had become critical as a result of enemy activity and which thus required the mastering of unforeseen difficulties.

In Spain the bomber units became accustomed to taking off in group strength (25 - 30 aircraft) within about half an hour from a single airfield. Approach routes

176 - a

248

and altitudes, turning points, and all the details of the attack itself were carefully coordinated in advance, particularly in regard to timing, and had to be followed exactly by each individual crew. This procedure, in part at least, represented an innovation at that time;

later on, during World War II, it was regarded as the standard procedure for the accomplishment of concentrated nocturnal bombardment attacks. The bomber group in Spain proved that attacks of this kind, provided that they were well planned and well executed, were just as effective as concentrated daytime attacks.

Individual attacks, or attacks spread over a period of several hours, of the traditional type were soon abandoned in Spain, except of course in the case of harassing actions such as the repeated bombardment of an enemy supply route or repeated attacks on enemy troops and troop assembly areas. These, in any case, were tactical targets, and the attacks on them can hardly be classified as strategic air operations.

Complete mastery of instrument flight and extreme care in the navigational preparation and execution of the flight were of paramount importance. The units and the individual crews were forced to excel in these aspects by the difficult climatic and geographical conditions, coupled with the inadequate radio communication facilities; on the other hand, this provided them with a good deal of excellent practice in mastering the difficulties of night flying.

It is true, of course, that the inadequacy of radio communication facilities and the difficulties resulting therefrom (the need for aircraft-based direction finding, radio beacons, localizer beams, etc.) were recognized and, although the situation in Spain could no longer be improved, the conclusions drawn were applied in the training programs in Germany, thus making themselves felt in World War II.

In Spain the practice of setting up blinker lights and directional searchlights was adopted in an attempt to facilitate aerial navigation and target location and to mark important turning points and the front lines. In some cases even, when the target was big enough to warrant it, it was illuminated by scout aircraft which released incendiary bombs over it in order to start fires.

As far as the bombardment attack itself was concerned, planning was limited to establishing a general line of attack. In order to obviate the danger of collision in the air (a danger which was quite overrated at that time), the altitude at which each aircraft was to release its bombs was carefully established and had to be exactly adhered to.

To begin with in Spain, there was little need for eliminating enemy defenses over the target area during the night. Nevertheless, with time the Condor Legion even gathered a certain amount of experience in this field, at Brunete, for example, where the enemy antiaircraft artillery and searchlight defenses were highly concentrated and thus much more effective than ever before and where enemy night fighter aircraft even appeared occasionally.

In addition a good deal of experience was gained in respect to the loading capacity of the aircraft, the need for reserve fuel during bad-weather flights, the most economical cruising speeds, etc. Certain safety factors, which had been accepted as absolutely valid previously, were proved to be irrelevant in practice, whereas others were discovered to be indispensable and were incorporated henceforth into the principles of employment.

Despite the technical developments which had taken place in the meantime, all these principles of employment were applied in strategic bomber operations during World War II. The nocturnal bombardment attacks on the British Isles and, later, in the East (on the Gorki tank factory, for example) represented only a refined and modernized application of the night bombardment methods used by the bomber group of the Condor Legion in Spain -- on a larger scale, of course.

Daytime Missions

We are now ready to examine the daytime strategic bomber missions in Spain, the experience gained during them, and the effects of this experience for the future. The employment of Ju-52 units in daytime attacks against well-protected targets in the enemy hinterland soon proved to be uneconomical and was thus discontinued, except in emergency situations.

But it was precisely in this type of employment that a great deal of valuable experience was gained, simply because the relationship between bomber and enemy air defenses showed up much more clearly in the commitment of the Ju-52, far inferior from the point of view of technical performance, than in the commitment of the later He-111 units.

It was recognized that the prerequisite for a successful mission of this kind was the assignment of a bomber unit in formation, which remained in formation during the approach flight, over enemy territory, and over the target. Only in this way could the losses inflicted by enemy fighter aircraft be kept within a tolerable limit and the attack itself have any prospect of success. As far as the Ju-52 units were concerned, there were a good many factors which made it difficult for them to remain in formation -- the lack of intercom and air-to-air communication facilities, the low degree of reserve power, the poor climbing ability and inadequate maneuverability of the aircraft, etc. Thus, under bad weather conditions, for example, it was often almost impossible to guide a heavily laden unit of Ju-52's over the high mountains to their target in close formation; nevertheless this remained the goal of all unit leaders. Gradually the bomber crews in Spain came to regard the enemy antiaircraft artillery forces (for which a group of aircraft in close formation provided an extremely rewarding target, of course) as a lesser evil than the Red fighter aircraft.

A second, no less important prerequisite was the provision of fighter aircraft to escort the bomber units. Here, too, it was often difficult to find a suitable means of coordination. Neither the fighter nor the bomber pilots had had very much experience in locating rendezvous points at a given time, the fighter aircraft were numerically too weak to provide effective protection, the communications facilities were poor, and -- finally -- the Ju-52's were simply too slow. Nevertheless, an attempt was always made to see that the bombers had a few escort fighters to accompany them, at least until they had crossed the line into enemy territory; if the target lay close to the front lines, the fighters might even be able to remain with them

179 - a

2441

during the bombardment itself. In order to simplify the rendezvous problem, the bomber units were routed over the fighter airfields whenever weather conditions and distance factors permitted. Otherwise a rendezvous point in the air had to be established, but for the reasons detailed above this procedure was usually unsuccessful.

130

248

The need for more complete fighter protection, for example by a series of fighter units relieving one another in the escort of the bombers from the moment they entered enemy territory until they had completed their return flight, was clearly recognized, but could not be met in view of the conditions prevailing in Spain. This particular phase of operations brought no experience of significance.

As far as the method of fighter protection is concerned, we might mention that the procedure followed was the usual one, with the fighters flying above and slightly behind the bombers.

After 1937 only the He-111 units were employed in daytime missions, and the problem of a fighter escort was no longer so serious, not even during attacks on strategic targets. Thanks to its speed and airborne armaments, which were at least a match for the enemy fighters, the He-111 -- even in flight or squadron strength -- could defend itself sufficiently well to dispense with a fighter escort altogether.

This resulted in a shift in the missions of the German fighters in Spain, which, after 1937, were employed primarily in free fighter operations or in air support operations for the ground forces. This development, which may very well have been justified by the conditions prevailing in Spain at that time, was taken up by the Reich and applied in such a way as to be often unfavorable, for the following reasons:

a) German Luftwaffe leaders had come to consider the bomber per se (and the bomber in World War II was still the He-111 used in Spain, with a few improvements, or the Ju-88, which was only a little more powerful than the He-111) was capable of operating deep in the enemy hinterland without a fighter escort. They believed that a bomber unit in close formation was well able to defend itself against attack by enemy fighter aircraft. As a result, during the years 1938 to 1940, there was hardly any training in coordination between bomber crews and fighter pilots. As early as during the campaign in Poland, and even more during the campaign in France, this -- in turn -- resulted in far higher losses for the bomber units than would otherwise have been necessary. The full scope of this error in thinking became apparent in

August 1940, during the air operations against England, when technical inferiority (the range of the fighters) and inadequate training made it impossible for the Luftwaffe to carry out the missions set for it and when the losses mounted to an all-time high. From that point on, the Luftwaffe -- at least on the Western front -- carried out its strategic air missions only under cover of darkness; it had no choice but to renounce completely the one kind of mission which might have won the Battle of Britain -- daytime strategic attacks on the enemy hinterland (later demonstrated in their full effectiveness by the US Air Force).

b) There were two fundamental missions of any fighter arm, namely the protection of friendly bomber units and the defense of the home area against enemy air attack, which were completely relegated to the background in Spain. As a result, these tasks were often neglected or overlooked completely in subsequent training programs and commitment planning. This fact had its effects during World War II, first in the Luftwaffe's inability to carry out strategic air operations against the enemy (as mentioned above), and second in its inability to provide effective defenses for the home area in the face of enemy bombardment.

It goes without saying, of course, that the employment of the Condor Legion in Spain provided still other experience in the field of bomber operations -- for example, the cross-country flights between Germany and Spain in the initial transport operations and in subsequent courier flights provided excellent training for the crews who participated. But it is not possible to deal with all these aspects within the framework of the present study.

Nevertheless, in summary it should be mentioned that the experience gained in strategic bomber employment in Spain, and the far-reaching effects of this experience, must be rated as negative rather than positive. The experience gained in night employment is perhaps an exception. The real reason for this, of course, is simply that the idea of strategic air operations was never developed in Spain but always had to take second place behind the need for tactical air operations.

Tactical Bomber Missions

The experience gathered in Spain in respect to the tactical employment of bomber units is of paramount importance, in regard to both its intrinsic significance and its effects on the future.

It must be admitted, of course, that the peculiar conditions prevailing in the Spanish theater of operations (the lack of artillery and tanks, the strength ratio of the forces involved, the inadequacy of the supply and communications systems, etc.) very often created critical situations in which the ground forces needed and wanted air support by the German bombers. For a long time the bombers (Ju-52 and He-111) were the only substitute, or supplement, for the heavy weapons which the Nationalists did not have -- although it is clear, of course, that bomber aircraft are neither created for nor actually suited to this role.

In the beginning (Von Moresu's bomber unit during 1936 and the K/88 in 1936/37) the bombers were only occasionally employed in missions directly over the front, and this only when the situation could not be otherwise resolved; after the start of the offensive on the northern front on 1 April 1937, however, the situation changed radically. This was not the result of any particular critical situation; instead the offensive was based on the carefully planned coordination of air and ground forces. Thus 1 April 1937 may be viewed as the birthday of the principle of the tactical employment of air forces within the framework of ground operations. The pattern which characterized the offensive on the northern front from beginning to end was repeated again and again in the future, both in Spain and in World War II (particularly in the East during the period from 1941 to 1943):

On the first day, just before the ground forces launch their attack, all the available air units carry out a concentrated blow against the enemy fortifications which are to be assaulted on the ground. This is followed by a series of attacks, sometimes going on for days, on enemy pockets of resistance, enemy reserves, enemy supply and troop assembly areas in the vicinity of the front -- all this in

close coordination with the advance of the ground forces. The advantages of this all-out tactical effort by the air forces for the ground troops are obvious and have been pointed out time and time again; thus it is perhaps quite natural that every army -- and this applies not only to those of Spain and Germany -- immediately appoints itself as the promoter and champion of this new air force tactic and thus has a certain amount of influence on its further development.

After the new tactics had proved so satisfactory on the northern front in Spain (the operations against the Iron Belt of Bilbao, against Santander, and against Gijon were carried out according to exactly the same pattern), they were regarded as having successfully passed the experimental stage and were systematically improved and developed. Von Richthofen, who originated the idea, remained its champion for many years to come.

In the beginning, of course, there were still a good many deficiencies to be overcome and improvements to be made, and the conditions prevailing along the northern front in Spain, where the Condor Legion and its Spanish allies clearly had air superiority, were ideal for this. Above all the air units had to be oriented in their new missions and in the requirements they entailed. The bomber forces especially were unused to navigating according to landmarks, identifying and hitting small and mobile targets, and taking the course of the front line into consideration. The navigation according to dead reckoning which they had learned during their training, and their high-altitude (approximately 13,000 feet) were completely useless to the ^{flight experience} bomber crews in this new mission, which very rarely involved bad-weather or navigation problems. The bombers had to fly according to landmarks during the approach flight (usually quite short) and over the target; sometimes these flights had to be done at very low altitude, which increased the danger and difficulty involved. The crews were expected to be extremely flexible, in the operation of their aircraft, in the release of their bomb-loads, and, in fact, in every respect. For example, in view of the number of missions to be flown per day, there was rarely time to discuss

252

184

the orders in detail or to make careful preparations for the mission; last-minute changes in the target, the military situation, and the course of the front were the order of the day. The highly qualified crews of the Legion's bomber group made the necessary adjustment quickly and passed their first test, at Brunete, with flying colors. Here conditions were particularly difficult because the tactical bombardment missions had to be flown in the face of heavy enemy air defenses and -- for the first time -- in support of defensive operations rather than in coordination with an advance on the ground.

Detailed Treatment of the Various Problems Connected with the Tactical Employment of Bomber Forces

Targets; Attack and Bomb-Release Tactics

The main targets in Spain were enemy emplacements in the vicinity of the front, identified enemy troop assemblies and columns, and, in cases where there was no possibility of recognizing troop activity from the air, smaller villages, wooded areas or areas otherwise limited in which -- according to aerial reconnaissance or ground observation reports -- there ~~might~~ be enemy troops. The last-named targets, of course, were easier to handle and consequently more popular. But in all cases the targets had to be located by landmark and with the help of appropriate maps and charts, which meant that the attacking aircraft had to remain at altitudes lower than 10,000 feet.

If the target was to be smothered by bombs, the attacking unit came in in close formation and dropped its bombs all at once; if the target was very large or if it was to be attacked at various times and at various points, the bomber unit separated into groups of about six aircraft each, each group having been assigned a certain part of the target for which it was independently responsible and which it attacked repeatedly if necessary.

Aiming and bomb-release activity was often based more on practical skill and

experience than on the technical efficacy of the aiming equipment, for the latter was designed for higher altitudes and calibrated for a steady and level approach flight. After a short time, however, even the trial and error method was yielding excellent results.

The bomb-load was selected in accordance with the target to be attacked. While over the target the crews could rarely tell how effective their attack had been, which, of course, was a decided disadvantage. There is no doubt, for example, that the morale-lifting effects of an attack on targets located near the front line were usually greater than its material effectiveness. Even so, an increase in morale was also a decided help to the ground troops and provided a boost for their operations.

Enemy Air Defenses; Fighter Escorts

The crew of a bomber being employed in tactical missions was faced with entirely different conditions as regarded enemy air defenses. In the first place, the fact that it remained over enemy territory for such a short time -- sometimes only a matter of minutes -- reduced the chances of successful enemy air defense activity and thus the potential loss of the bomber itself. In addition, it had a better chance of escaping and landing safely in its own territory, even if it should be damaged by enemy fire.

The enemy heavy antiaircraft artillery, which in any case was employed only in focal areas near the front, had little chance of success against a low-flying and constantly moving aircraft unit which kept changing its altitude and direction. To make up for this, the medium and light antiaircraft artillery were extremely unpleasant, since a low-flying bomber presented a relatively large and slow-moving target. And if -- because of the weather or for some other reason -- the bombers had to fly lower than 3,300 feet (as often happened), the antiaircraft machine-gun and rifle fire of the enemy was a very real danger. Under these circumstances, the bomber unit was extremely vulnerable and was forced to maneuver about or even to separate, which, of course, had an adverse effect on the bomb-release accuracy.

Later on, in areas with heavy enemy antiaircraft defenses, the close-support aircraft were sent in ahead of the bombers to hold down antiaircraft artillery fire with small bombs and airborne armament fire. This was done for the first time at Brunete, and this division of labor did much to relieve the bomber units.

On some of the combat sectors there was a very real danger of attack by enemy fighter aircraft since the Reds often had their fighter units either standing by in the air over focal points of action or alerted for immediate action at bases located near the front lines. Still, the bombers were usually able to defend themselves effectively against enemy fighter attacks for the short time they spent over enemy territory, even when they operated in small groups of three or four aircraft. In addition the fact that the bombers spent so little time over their targets made it difficult for the enemy fighters to get in close enough for effective attack.

Consequently, while a fighter escort was always desirable and useful, it was not absolutely a prerequisite for the successful accomplishment of tactical bomber operations. Often enough the fighter escort could be dispensed with when weather conditions were favorable or enemy defenses weak, and sometimes, of course, it had to be dispensed with when there were simply no fighters available for escort duty.

Ordinarily there was no direct escort duty in Spain, i.e. with the fighters flying right along with the bomber unit; it was sufficient to have the fighters standing by over the target area during the attack so that they could ward off enemy fighters if necessary.

Experience Gained in Combat on the Technical Sector

The most important conclusions to be drawn from the experience gained in the field of technical flight performance had already been mentioned in the foregoing account. During the three years which the Spanish Civil War lasted, it is clear that a good deal of information was acquired in respect to the bomber aircraft as such -- their airborne armaments, the types of bombs employed, the effectiveness of aiming devices and radio equipment, etc. All this was carefully evaluated by the various

technical offices and testing stations in Germany and the results, already tested and approved for the front, had been incorporated into the training of the bomber units with which the German Luftwaffe entered the war in 1939.

The He-111 -- doubtless quite properly -- was considered the ideal bomber model for the conditions prevailing at that time (just as the Ju-52 had come to be recognized as the ideal transport aircraft). A few improvements were made in the He-111-B, which had been employed in Spain, resulting in the He-111-F and He-111-H, which were available by the outbreak of World War II; no basic changes had been made, but the modifications had resulted in better performance, as follows:

- a) flight duration had been raised from three to approximately five hours by the installation of larger fuel tanks
- b) bomb-loading capacity had been increased to two tons (maximum load)
- c) installation of a turret with full-field view and additional machine-gun stations
- d) increased stability of the aircraft by shortening the wings and strengthening the fuselage and landing gear to make up for the added flying weight
- e) stronger engines with better altitude performance
- f) installation of the Lotfe 7c, expansion and improvement of radio equipment

Together with the Ju-88, the He-111 was to remain the Luftwaffe's standard bomber model until the end of the war in 1945; the few minor changes effected during the course of the war are insignificant. One idea which Luftwaffe leaders/picked up again and again ever since Spain turned out to be a fallacy with negative results -- the creation of an all-purpose bomber equally suited to strategic air operations and to tactical employment. And in the last analysis, it would seem that there is no such thing; the result of such experiments is bound to be a hybrid, incapable of fulfilling either mission properly.

Experience Gained in the Field of Training

From the very beginning it was recognized that the most important experience

187 - a

256

gained during the Spanish Civil War was that which pertained to the standard of training which should be required of bomber crews and to the concepts of readiness for front combat and combat preparedness.

The employment of the K/88 in Spain can be regarded as having brought the most valuable experience in this connection in that it helped to increase the degree of success achieved by the German bomber units, especially during the first years of World War II, and -- without doubt -- to decrease the losses suffered by them.

Consumption of Ammunition²⁵

During the period from 1 November 1937 to 31 October 1938, the following number of bombs was utilized by the Legion's bomber group in Spain:

22.05-lb bombs	13,548
110.25-lb bombs	165,727
551.25-lb bombs	11,563
1,102.50-lb bombs	<u>611</u> a total of 11,618.08 tons

3) Fighter Forces²⁶

In the beginning the effectiveness of the fighter forces in Spain was adversely influenced by the lack of adequate equipment (He-51's); after the fighter units had been converted to the new Me-109, their effectiveness -- as fighter units -- improved only very slightly due to the fact that the Red pilots consistently avoided aerial combat with them, so that the only real fighter combat took place when the German units were employed far behind the enemy lines. With the Me-109, the German fighter pilot was invariably superior to ~~the~~ his Red assailant.

The missions assigned to the fighter units were the following:

- a) Defense of the Nationalist combat front and hinterland against enemy air attack
- b) Provision of fighter escorts for the German bomber units

25 - Volkmann, op. cit., page 21.

26 - The material contained in this subsection is based on the following sources: Grabmann, "Die Erfahrungen beim Einsatz deutscher Flieger und Flakverbände in Spanien" (The Employment of German Flying Units and Antiaircraft Artillery Forces in Spain).

Volkmann, op. cit., pages 9 and 10

Freiherr von Beust, op. cit., Part C, pages 105-107, 111-113.

c) Carrying out of low-level attacks (close-support operations).

Re a), above: Once the conversion of the fighter units to the Me-109 (which began in the spring of 1937 and encompassed two of the fighter squadrons) had been completed, i.e. in the fall of 1937, aerial combat with the Red fighters was no longer a problem.

Although the Reds occasionally employed the few bombers at their disposal against targets located on the front lines, usually with a strong fighter escort, there was little chance of the German fighter units' being able to provide effective defenses, since the period between the time the aircraft observation stations along the front reported the approach of Red bombers and the actual beginning of the attack amounted to no more than five to eight minutes, which, of course, was not long enough to allow for the fighter scramble and subsequent attack. This problem was solved by the assignment of patrol groups consisting of two to five Me-109's to keep the front sector under continuous surveillance. Thanks to this system, it often happened that a relatively small group of Me-109's was able to attack and scatter a Red bomber group on its way to the front. In this way the Red bombers were forced to release their bombs over their own territory before they turned tail and headed back into the direction from which they had come; the accompanying fighters dived to a low altitude and made their way back to their bases singly.

The Red fighter pilots reacted in the same way even when they appeared over the front in groups of fifty to one hundred aircraft in order to demonstrate Red air strength.

The demoralizing effects of the superiority of the Me-109 were so obvious that the Legion commanders even dared to employ their bomber units in attacks on the harbor of Barcelona, some ninety-two miles from the front, as long as they were accompanied by an escort of Me-109's. The Red fighters were sent up at the approach of these units, but as soon as they realized that the fighter escort was made up of Me-109's, they veered off and refused to let themselves be engaged in aerial combat.

The employment of German fighter units in Spain did not result in any radically new conclusions. It did, however, substantiate the fact that one prerequisite for success in the defense of front-line targets against enemy bomber attack was a smoothly functioning aircraft reporting service and that the fighter aircraft to be employed in defense operations of this kind should be stationed as close as possible to the front. This was, in any case, a prerequisite which the Condor Legion always tried to fulfill.

The employment of the J/88 group in Spain also substantiated the fact that -- particularly in the case of fighter aircraft -- the superiority of the fighter aircraft per se is an extremely important factor, and that a fighter which is even only slightly inferior to the enemy model becomes easy game for the latter. The most important qualities of a fighter in this respect proved to be speed and climbing ability. In the event that the aircraft of both sides are equal in technical performance, the training standard and fighting morale of the pilots are the deciding factors.

No new discoveries were made in the field of the airborne armaments of fighter aircraft, since the aircraft on both sides were equipped with approximately the same type of armaments, including machine-guns.

As regards the night employment of fighter aircraft, the Spanish Civil War failed to provide any experience whatsoever, for the simple reason that the Red fighter pilots and bomber crews refused to provide any opportunity for night fighter operations.

Re b), above In the beginning, the bomber group of the Condor Legion, equipped with the Ju-52, which was relatively slow and poorly armed for self-defense, could be employed in daytime operations, especially against targets located in the enemy rear area, only when it was accompanied by a strong fighter escort, in view of the fact that enemy fighter defenses were gradually being strengthened. Even after the group had been converted to the He-111, it could not dispense entirely with a fighter escort. It was difficult, however, to find the proper method of coordina-

100 - a

260

ting bomber and fighter operations in each particular action. This problem has been discussed in the foregoing subsection concerning the bomber forces. It should be mentioned here briefly that a fighter aircraft such as the Me-109-B, with a flight duration of eighty-five minutes at the most, was not suited to bomber escort duty. On the basis of the experience gained in Spain, the Me-109-D model was soon developed, with a flight duration of 125 minutes, in other words thirty minutes more than its predecessor. As a result of the increase in its penetration depth, the Me-109-D

acquired additional maneuverability, which made it more effective in employment at the focal point of air defense operations as well as in commitment as an escort fighter for the bombers or reconnaissance aircraft over the front.

The view prevailing among Luftwaffe leaders, to the effect that a bomber unit flying in close formation was well able to defend itself against enemy fighter aircraft and could thus dispense with a fighter escort, was not substantiated by the experience of the German fighter forces in Spain; this, unfortunately, was not accepted by German air leaders at that time. The single-seater fighter aircraft, with its restricted radius of operation, was simply not suited to strategic air actions. As a result, Luftwaffe leaders hurried to develop a "heavy fighter", or "twin-engine fighter", the Me-110-B. This was a twin-engine machine operated by a crew of two, which was developed first by the German Luftwaffe. With a radius of action of approximately 500 miles, the aircraft was still imperfect in a number of respects. It was not employed during the Spanish Civil War.

Thus the experience gained through the operations of the Condor Legion in Spain did provide an impetus for the development of a fighter aircraft model capable of employment in strategic air actions.

Re c), above: The carrying out of low-level attacks in Spain was assigned primarily to the two close-support squadrons (equipped with He-51's) of the J/88, which will be referred to as "close-support" units hereafter. Close-support operations, however, were not restricted to the He-51 units, but were also assigned to the other fighter squadrons (Me-109) whenever the military situation required -- and permitted -- the employment of fighter aircraft in such operations.

4) Close-Support Forces²⁷

This branch of the flying forces, which had played a significant role in World War I (by the end of the war in 1918 there were a total of thirty-nine close-support squadrons in existence), was reborn during the Spanish Civil War.

German Luftwaffe leaders had not actually envisioned the establishment of a special close-support arm. In Luftwaffe Manual (Luftwaffen-Druckvorschrift) No. 16, the basic guidelines for command and commitment, no mention is made of the concept of "close-support air units"; it is simply stated that all air units are to be assigned to support ground operations if necessary. Following the precepts of Douhet regarding the efficacy of strategic air warfare, German air leaders ignored the field of close-support air operations during the build-up period of the Luftwaffe.

The operations in Spain marked the rebirth of the close-support force. In the beginning this happened quite by chance; since the fighter aircraft, the He-51, proved to be too slow and too vulnerable to attack by enemy fighters, it was employed in low-level attacks with bombs and machine-gun fire against ground targets, particularly pinpoint targets which the more cumbersome bombers could not locate and hit so effectively, ~~and~~ against enemy troop movements along the highways, and against enemy air-fields. These fighter attacks were highly successful. The tactics applied were as follows:

In order to be able to exploit the surprise factor fully, the close-support pilots -- whenever terrain conditions permitted -- approached at very low level, following the course of the valleys. Shortly before reaching their targets, they began to climb until they attained an altitude at which they were able to orient themselves regarding the terrain and the position of the enemy. While half the attacking squadron carried out its attack on the assigned target, the other half stood by in the air to protect the attackers and to reconnoiter new targets.

27 - The material in this subsection is based on the following sources:

Von Beust, op. cit., Part A, page 57; Part C, pages 92 and 98

192 - a

263

Footnote 27 (cont)

Volkmann, op. cit., pages 8 and 9

"Lehren aus dem Einsatz in Spanien, Einsatz von Schlachtfliegern" (Lessons Learned from Operations in Spain, Operations of the Close-Support Units), Excerpt from a study prepared by Branch VIII (Military History) of the Luftwaffe General Staff, 1944.

193

264

After May 1938, when the enemy had set up a strong and well-organized defense system of 20 mm and 45 mm antiaircraft artillery right behind the forward line, the losses suffered by the German close-support units were quite high. These losses would certainly have been much less serious if the Condor Legion had had at its disposal an aircraft model specifically designed for this kind of operation, one with sufficiently strong armor plating to provide some measure of protection at least for the pilot and the fuel tanks, for the majority of losses were due to injured pilots and punctured fuel tanks rather than to damage to any other part of the aircraft.

The two He-51 squadrons of the J/88, which had retained this aircraft type in keeping with their close-support assignments, were employed with great success. In the summer of 1938, however, one of these two squadrons was converted to the Me-109.

On an experimental basis, the first Ju-87's and Hs-123's (dive bomber aircraft) were tested by the Legion as close-support aircraft.

Freiherr von Richthofen was the driving power behind the development of a close-support arm. By the outbreak of World War II, thanks to him, Germany had at her disposal one close-support group with a total of forty aircraft, which proved to be of very great value during the campaign in Poland. During the course of the campaign in Russia, the group was enlarged again and again, and was assigned the new mission of combatting enemy tanks.

One is tempted to ask whether the establishment and enlargement of the close-support units was really purposeful in view of the Luftwaffe as a whole. For in the last analysis, it was the fighter units which provided the necessary personnel and materiel. It is true, of course, that the campaigns in Poland and France would probably have been won even without the close-support units, whereas a painful lack of fighter units was noted during the operations against England, in the campaign in the East, and in home air defense operations.

5) Dive-Bomber Forces²⁸

Primarily because of the close coordination between the air units and the ground forces, the Spanish Civil War -- in addition to bringing about a rebirth of the close-support forces -- also marked the introduction of a completely new weapon in the field of close-support operations -- the dive bomber. The idea of releasing bombs from a diving aircraft probably originated in the United States; in any case, Udet, later to become Chief of the Luftwaffe Technical Office, brought it with him upon his return from a visit to that country. US air leaders had envisioned the employment of dive bombers against naval targets. Udet promoted the development of such aircraft for use against pinpoint ground targets as well, and von Richthofen arranged to have the first models, the Ju-87 and the Hs-123, sent to Spain for tactical and technical testing. In the beginning their technical performance was below the standards set and, in addition, their hitting accuracy against pinpoint targets was far from adequate. It was at this point that the overpowering effectiveness of the 1,102.5-lb bomb was realized.

The Ju-87 was improved to the extent that the dive-bomber flight of the Legion's bomber group could be employed (together with the bomber squadrons) at the front on a number of occasions -- for the first time on 17 February 1938 in the battle of Teruel. On 9 March 1938, during the opening phase of the Nationalist offensive against the Mediterranean coast, the dive-bomber flight was employed to attack the enemy front line and the enemy reserve forces being assembled at Belchite and Azuara. On 15 January 1939, the flight managed to destroy three enemy steamers in the harbor of Tarragona.

28 - The material in this subsection is based on the following sources:

Beumelburg, op. cit., pages 201, 209, and 283.

Volkmann, op. cit., page 11.

Freiherr von Beust, op. cit., Part C, pages 92 and 98, as well as Appendix 1, I.

The operations in Spain served to demonstrate the usefulness of a dive-bomber force to carry out missions which could be accomplished by the normal bomber units either not at all or with indifferent success. As a result, German Luftwaffe leaders championed the development of this new force, and by the time World War II began a total of nine dive-bomber groups, with 336 aircraft, were available for employment. The new weapon, under the command of von Richthofen, experienced its first spectacular success during the campaign in Poland, in 1939, and the operations in France, in 1940. The dive bombers were particularly effective in shattering the enemy fortifications along the Maginot Line.

The staffing and equipping of the dive-bomber units, of course, had to be done at the expense of the bomber forces. And this, in turn, brings us to the question whether it might not have been better to dispense with the establishment of a dive-bomber arm and to strengthen the standard bomber arm instead. The Maginot Line would probably have been overcome even without the assistance of the dive-bomber units, and the missions subsequently assigned to them could probably have been accomplished just as effectively by horizontal bombers. The nine extra bomber units (making a total of thirty-nine in all) which could have been set up instead of the dive-bomber units and which could also have been used in strategic air operations (which the dive-bomber units could not) might have been of decisive importance in the Battle of Britain.

In addition to the above, the dive-bomber principle made deep incursions into the thinking of German air leaders and finally led to the attempt to combine the advantages of horizontal and diving attack in a single aircraft (the Ju-88). The attempt to unite these two aspects of performance in one machine was never successful (as, indeed, the attempt to create an all-purpose aircraft is usually a failure); instead, it simply resulted in uncertainty as to the proper method of attack and probably prevented the development of a long-range strategic bomber.

6) Transport Forces²⁹

267

The airlift carried out by the twenty German Ju-52's succeeded in bringing a total of 13,523 troops and 593,914 lbs of military materiel, including thirty-six artillery pieces and 127 machine-guns, from Africa to Spain -- in other words, they carried out an air transport operation^s never before attempted in such large scope. During the three months of its existence, this airlift provided countless new and fundamental items of experience pertaining to the air transport arm of the German Luftwaffe.

The air supply operation at Toledo and the cross-country flights of the courier and aircraft ferry services between Spain and Germany (the technical aspects of which have already been dealt with) also served to point out the potentialities of this type of air operation.

German Luftwaffe leaders did not hesitate to make use of all this experience in the build-up of the air transport forces, which was just beginning in 1937. Three years later, during the beginning of the offensive in France, the new weapon was employed for the first time, with spectacular military results.

The operations of the transport aircraft in Spain had already provided ample proof of the significance of air transport and of the potential application of air transport and air supply actions under appropriate circumstances. The units in Spain gathered valuable information regarding the loading capacities of the Ju-52 and, later, of the He-111 and the best possible way to utilize these capacities effectively in air transport operations. At the same time, the indispensable prerequisites and basic conditions necessary for the systematic and successful accomplishment of air transport operations were recognized.

At this point let us list the most important items of experience which were gained during operations in Spain, the conclusions from which were immediately put into practice there:

29 - Freiherr von Beust, op. cit., Part C, pages 116 and 117.

197

269

a) It was absolutely necessary that the pilots be expert in the operation of the heavily laden aircraft in every conceivable situation. They must, of course, have had experience in instrument flight and in bad-weather flying, for it is clear that if a transport pilot should make a serious mistake in this regard, he would be endangering a good deal more than the pilot of any other type of aircraft. The losses in human life might be extremely serious.

b) The equipment of the aircraft had to be designed with a view to saving as much weight as possible, thus permitting a greater pay-load. This meant: the smallest possible crew number, no radio equipment, no airborne armaments, very little reserve fuel, and no parachutes -- whenever possible. On the other hand, in case of need, it had to be possible to install the required equipment without delay.

c) The choice of airfields was extremely important; the closer the take-off base was to the final destination, the more missions could be flown and the greater was the volume of cargo delivered. The transport pilots had to learn to land on tiny, primitive runways and to take off again in accordance with exact schedules in order not to jeopardize the timing of the operation.

d) It was imperative that loading and unloading operations be carried out smoothly and quickly by trained squads capable of handling the troops and supplies to be loaded or unloaded efficiently and without delay.

e) Tactical planning was important in cases in which the transport aircraft had to cross enemy territory or in which enemy activity was anticipated; this was especially true, of course, in the case of transport flights to deliver supplies to advance or encircled forces. Under these circumstances, such things as flight route, flight altitude, flight formation, the installation of airborne armaments, and the provision of a fighter escort had to be given due consideration before the action concerned.

It was demonstrated quite clearly that the standard bomber units could not be expected to take on the task of providing air transport in addition to their other

duties; thus an independent air transport arm was established, and its later significance needs no special mention. The airlift in Spain was the prelude to the subsequent air transport operations in Holland, Crete, and Stalingrad and to the air supply actions on behalf of the Africa Corps and numerous German units on the Eastern front.

7) Cooperation Between the Air Units and the Army³⁰

In this respect, the primarily tactical operations in Spain yielded a wealth of new and extremely valuable experience, particularly in connection with the employment of the bombers, which had never before been utilized in such close coordination with ground forces, and with the close-support units, which, as we have seen, began their real development in Spain. In operations of this kind, an exceedingly close coordination between air and ground forces was the primary prerequisite for success, as was clearly demonstrated in Spain. Understandably, there were a great many difficulties to be overcome in the beginning precisely on this sector, difficulties which could be traced back to a lack of experience as well as to the inadequacy of the available technological facilities, especially signal communications facilities. Thus a certain number of miscalculations regarding the course of the front, the development of military operations, the position of friendly troops, and the location of the targets to be attacked simply could not be avoided, and it happened occasionally that bombs were dropped over friendly territory. The Condor Legion soon learned to profit from these early mistakes and to eliminate them at their source.

Both the air units and the ground forces were forced to familiarize themselves to a hitherto unknown extent with the methods of operation used by both. The ground forces, especially, had to be trained in the identification of friendly and enemy aircraft models,

30 - The material in this subsection is based on the following sources:
Freiherr von Beust, op. cit., Part C, pages 113-115
Volkmann, op. cit., pages 13 and 14.

199

270

which -- from the point of view of the pilots -- seemed to be an extraordinarily difficult undertaking; it often happened in Spain, and also later, during World War II, that the Nationalists shot at German aircraft. It was also deemed to be very useful for the ground forces to have some idea of the method of attack and bombardment as well as of the general tactics employed by the bomber units.

Even more extensive was the information which the air units were expected to acquire regarding the method of operation of the various branches of the ground forces, information which had previously been of use only to the close-range aerial reconnaissance units.

During the offensive on the northern front and during the battle of Brunete, a great deal of experience was acquired in connection with ^{the} tactical employment of air units and the principles of coordination between air and ground forces, experience which was applied immediately. The most important points are the following:

- a) Whenever possible, the commanders of the flying units were oriented right in the combat area and were urged to remain on hand to observe the execution and effectiveness of the air attacks carried out.
- b) All planning and preparations, as well as the issuance of operational orders, on the part of higher-level Army headquarters were carried out in conference with Condor Legion representatives.
- c) Air liaison officers were assigned to the Army command headquarters, where they could observe for themselves -- often from posts located right on the front line -- the development of operations on the ground. The commander of the Condor Legion, or a high-ranking officer authorized to represent him, could usually be found at the focal point of operations. This procedure was entirely new in Spain; later on, during World War II, it became standard procedure, especially on the Eastern front.

d) Direct radio and telephone communication lines had to be provided between the command posts of the air units and those of the ground forces. Only in this way could the air missions be carried out quickly, efficiently, and effectively, based on the very latest developments in the action at the front.

e) An "identification service" was set up in Spain to mark the course of the front line, the Nationalist forward line, and the direction of attack with cloth and light signals (directional searchlights and blinker lights were used at night). This service was carefully tested and constantly improved.

f) When the bomber units had to be assigned to tactical missions during the night, certain special precautions had to be taken. These have already been discussed in the subsection dealing with the night employment of bomber aircraft.

During their participation in ground operations, the bomber units were directed from a command post located to afford a good view over the area of combat; the post was usually set up either along the forward line or in the vicinity of the command post from which ground operations were conducted. It was useful that the majority of the officers on the Legion staff had at one time or another in their careers acquainted themselves with the combat methods of the ground forces, so that they were able to provide effective support and sometimes even valuable advice for the Army command staffs. A certain degree of familiarity with ground operations on the part of the air commanders, coupled with smoothly functioning communication services, would seem to be a prerequisite for effective air intervention in ground operations.

One result of the experience gained by the Legion in Spain in the provision of direct air support for ground operations was the establishment, in the summer of 1939, of the office of the Special Duty Air Commander (Fliegerführer z.b.V.). This led to the development of a regular close-support division, equipped with dive bombers, twin-engine fighters, a close-support group, and single-engine fighters. From the point of view of the "blitzkrieg", it is clear that the concept of a special close-support force, with its organizational and operational ramifications, was one of the most

201

272

important ever evolved by the German Luftwaffe. Since the Luftwaffe could afford to set up only one close-support division, the overwhelming demand for such services inevitably took some of the strategic air units away from their primary missions in the depths of enemy territory. Thus, on occasion, the other air divisions as well were required to take over the task of providing air support for Army operations, although their commanders were naturally inexperienced and their aircraft models (usually twin-engine bombers of the He-111 and Do-17 types) not really suited to operations of this kind.

It was Generalmajor Freiherr von Richthofen who was responsible for systematically gathering and evaluating experience in close-support missions in Spain and for seeing that it was utilized by Luftwaffe leaders in Germany. Von Richthofen himself was an expert in the command of such operations.

Of all the experience gained by the Condor Legion in Spain, it was that pertaining to the methods of tactical air employment which was most significant and most far-reaching in its effects.

During the campaigns in Poland and France, this experience was applied and developed further; the campaign in the East, from 1941 to 1943, provided countless classic instances of the application of close-support air tactics, which -- especially within the framework of an offensive operation -- nearly always resulted in immediate and spectacular success. In the meantime these tactics had also been tested and applied to other types of ground operations, to defensive actions, for example.

As we have already indicated, the development of this entirely new method of operation and the shift from strategic to tactical thinking had a profound influence on training, technological, and organizational developments within the German Luftwaffe. The creation of new air arms, specifically the dive-bomber and close-support units, and a shift in the missions traditionally assigned to bomber, fighter, and aerial reconnaissance units, as well as to the antiaircraft artillery, are the most apparent results. Above all, the subordination of air employment to the needs and

requirements of the ground forces gradually led to a fundamental change in the ratio of strength existing between the Luftwaffe and the Army, and this inevitably had an adverse effect on the overall development of the Luftwaffe.

8) The Struggle for Air Superiority³¹

Before we turn to a discussion of this subject, it may be useful to present a brief summary of the characteristics of the Red air forces and their method of employment.

On the average, it can be estimated that the number of combat aircraft available to the Reds in Spain was approximately 200. Thus, from the numerical standpoint, both sides were about equal (i.e. the Red air forces on the one hand, and the combined units of the Condor Legion, the Nationalists, and the Italians on the other). The Reds, however, had placed the main emphasis on fighter aircraft, and in the beginning were even numerically superior to the Nationalists in this respect, while they had rather neglected the bomber sector. This ratio was not only important as far as numbers were concerned but naturally also had its effects on the equipment, training, and employment of the bomber units. The reason for the unequal ratio between fighters and bombers probably lay in the fact that the constant Nationalist bomber attacks forced the Reds to emphasize the defensive aspect; the fact that fighter pilots could be trained more quickly than bomber crews may also have played a role.

The twin-engine bombers used by the Reds, the Martin and the Potez, were far inferior in performance to the German He-111.

31 - The material in this subsection is based on the following sources:

Lt Col Douglas Pitcairn, "Russische Flieger im Spanieneinsatz" (Russian Pilots in Spain), 1955

General a.D. Grabmann, "Die Erfahrungen beim Einsatz deutscher Flieger- und Flakverbände in Spanien" (The Experience Gained during the Employment of German Flying Units and Antiaircraft Artillery Forces in Spain), an excerpt from Study No. 164, "Die deutsche Luftverteidigung 1933-45" (German Air Defense Operations from 1933 to 1945)

Volkmann, op. cit.

Von Beust, op. cit., Part A, page 34

202 - a

2744

Footnote 31 (cont)

Evaluation of the "Air Exercise on Rügen" of the Naval Air Squadron, Condor Legion, Part III, pages 38-40.

The few bomber aircraft the Reds had at their disposal were employed only infrequently and always with a strong fighter escort. They were used only against targets along the front; the enemy hinterland was avoided. During these missions over the front, both the bombers and fighter aircraft utilized the low-altitude attack method, a tribute to the superiority of the German Me-109's at high altitudes and to the efficacy of the Legion's 88 mm antiaircraft artillery. The Red bomber crews had had neither training nor experience in navigation, bad-weather flying, or night flying (they hardly ever appeared during the night), nor were they adept in flying in formation; they usually attacked in groups of one or two flights at most. The target accuracy of the Red bombardiers could only be described as indifferent.

The Red fighters, on the other hand, were superior to the German He-51's in every respect. Once the Legion's fighter group had been converted to the Me-109, however, the situation was reversed. The Red fighter pilots usually attacked singly, and when they encountered a German bomber unit flying with fighter escort, they attacked both the bombers and the fighters indiscriminately. Once they had completed one mission of this kind, they ordinarily did not reappear to follow it up. Later on, the Red fighters began to appear in groups of five or six.

The Red fighter pilots seemed eager to attack and, in fact, often approached larger units of German aircraft, but they never tried to pursue their quarry across the front lines into Nationalist territory. Primarily they were employed in warding off Nationalist attackers; they never operated according to the "free hunt" method.

The Red fighters were occasionally employed during the night -- this happened for the first time during the night of 9/10 July 1937, during the battle of Brunete, when the Legion's entire bomber force was employed in an attack on enemy airfields during which the enemy night fighters suffered serious losses. The Red pilots flew according to visual landmarks and thus were restricted to good-weather periods for night employment.

Aerial reconnaissance was apparently a field in which the Reds were not very

203 - a

274

interested; reconnaissance seemed to be limited to the minimum necessary in preparation for Red bomber raids.

The ground organization installations of the Red air forces were very skillfully camouflaged, presumably due to the influence of the Russians, who are extremely gifted in this respect. As a result it was extremely difficult

204

277

for the Legion's reconnaissance aircraft to discover the Red airfields; and even after they had been discovered, the presence of enemy aircraft was only rarely noted. The fighter bases, in particular, were so cleverly camouflaged that the Legion was often unable to tell the airfield, or even the general area, from which the fighters were operating. During the defense of Madrid, for example, Legion commanders had no idea where the Red fighters were taking off until a Legion fighter pilot happened to discover that they were taking off from the city itself, from the main highway, which ran from north to south. The Red fighters were landing at previously determined airfields, but these were so well camouflaged that it was seldom possible to tell from the air whether there were aircraft parked there or not. The maneuverability displayed by the Red fighter units in shifting from one landing field to another was astounding for the conditions prevailing at that time.

The practice of changing airfields so frequently also had a definite disadvantage in that it increased the risk of losing aircraft as a result of crash landings or inadequate maintenance.

As far as antiaircraft artillery was concerned, the Red hinterland -- apart from certain strategically important points and areas -- was practically without defenses. The area around Madrid was protected by a strong belt of antiaircraft artillery of all calibers, reinforced by searchlights. In addition, antiaircraft artillery units were stationed at the city of Guadalajara, the airfield at Alcala de Henares (which was an important supply base as well as an important Red fighter concentration point), along the highway between Valencia and Madrid (a vital supply line), and around the harbors of Cartagena, Valencia, Barcelona, Mahon (Minorca), and Rosas, which were protected by modern antiaircraft artillery of 76 mm and 88 mm, as well as by heavy and light ship-based antiaircraft artillery and searchlights. The Red heavy antiaircraft artillery, however, failed to achieve very much success. The target location, aiming, and firing procedures were so poor, especially at night, that even the slow and cumbersome Ju-52's, at their usual operating altitude of between 6,500 and 13,000 feet, were quite safe. Even the He-59's, which were extremely slow, suffered not a single

loss at the hands of Red heavy antiaircraft artillery, since the latter never succeeded in scoring a direct hit.

The Red antiaircraft artillery stationed at the focal points of the ground action, on the other hand, i.e. the light antiaircraft artillery (20 to 47 mm caliber) and the machine-gun units, were very definitely a problem. These forces brought down a good many Nationalist aircraft and damaged even more during low-level attack operations. The fact that the close-support units were almost always employed at low altitudes resulted in their having the highest record of losses of all air units. During the Nationalist advance on Valencia, at the end of April 1939, Red antiaircraft artillery often interfered seriously with the Nationalist air attacks.

All in all, despite their numerical superiority over the German He-51 fighter units, the Red air forces were inferior to the Condor Legion in respect to leadership, striking power, and standard of training. Once the German fighter units had been equipped with the Me-109, German air superiority was assured for the balance of the war, even though the Red fighters were still superior in number.

From the very beginning of operations, the Condor Legion devoted its attention to winning the struggle for air superiority, and this goal was never neglected in spite of all the other missions to be carried out.

The Legion's attacks on the enemy air forces on the ground were never particularly successful. As we have already mentioned, the Red ground organization was skillfully camouflaged, very simple in organization, and widely dispersed. Moreover, the Reds were very clever about transferring their aircraft to a safer place whenever an attack threatened.

As the following examples will show, the Legion varied its method of attack on the enemy airfields.

- a) At the very beginning of their employment in Spain, the German fighter units had to wage a bitter and costly struggle against the qualitatively superior enemy forces. In the area of Madrid alone, Legion pilots counted more than fifty modern

French and Russian machines in the air at once. And often enough, the Reds mustered more than a hundred of these aircraft over the capital. Again and again the Reds managed to break through to attack the Nationalist infantry troops. Thereupon the commander of the Condor Legion ordered a massed attack by all available bomber and fighter units on the Red fighter bases northeast of Madrid. The first attacks were successful, but very soon the Red fighters moved to other bases, leaving only a few aircraft at the old bases -- and even these few aircraft frequently moved from one field to another. And when even these tactics failed to discourage the German attackers, the exemplary Red espionage service (which functioned on both sides of the front, utilizing those communications facilities still in operation) always succeeded in warning the enemy fighter units of a coming attack in time for them to take to the air and thus escape destruction on the ground. German air commanders had no alternative but to order night attacks on the enemy airfields. It was a game of hide-and-seek which lasted for weeks on end. The question of air supremacy was ~~ever~~ never decided.

It is incomprehensible that the tactic of night attacks on enemy airfields was not employed more frequently, since it would certainly have been capable of further development.

b) On 12 February 1937 the German bomber units, assigned to carry out a number of attacks on enemy airfields, bombarded one airfield near Alcala de Henares (some thirteen miles northeast of Madrid), where twenty-four enemy bombers were parked, and a second one, with twenty fighter aircraft. The bomber mission, flown with an escort of German fighters, was highly successful in both instances.

c) On the afternoon of 15 August 1937, during the offensive against Santander, the bomber squadrons of the Condor Legion attacked the Red airfields in the area of Santander, accompanied by a German fighter escort. Twelve enemy machines were destroyed on the ground. During the ensuing aerial combat, three Curtiss' and two Ratas were shot down.

206 - a

270

d) In connection with the decision, at the end of November 1937, to discontinue preparations for the offensive against Catalonia and to prepare for a battle of decision in the area northeast of Madrid, a great deal of consideration was given to the fact that

207

271

a very strong Red air force (estimated at more than 100 aircraft) was assembled behind the Red front in Aragon, stationed at airfields southeast of Zaragoza on either side of the Ebro. The assembled Nationalist air force consisted of sixteen bomber units and thirteen fighter units (all of squadron strength), a total of approximately 250 aircraft. The air offensive staged in preparation of the attack on the ground lasted three days, as follows:

On 10 December all the available German, Spanish, and Italian bomber forces, together with a fighter escort, were sent up to attack the enemy airfields. Only a few of the bombers located their assigned targets in time and were thus able to score at least some success; the majority arrived too late as a result of the too-long distance to be covered or because of faulty navigation. And when they arrived over the enemy airfields assigned to them, they found them deserted! The Red bomber units had already taken to the air, and the Red fighter aircraft attacked the fighter escort of the Nationalist bomber force -- seventy Ratas were sighted in the air at one time. The Nationalist fighters were unable to engage in aerial combat, however, since they did not have enough fuel to remain over the target area any longer.

There are a number of lessons to be learned from this mission -- to begin with, the command function and the effective coordination of such a large force were made very difficult by the fact that it was made up of three separate air forces with completely different equipment. In addition, the participating aircraft took off from widely dispersed bases. The standard of training was not adequate to the type of mission involved. The surprise factor could not be exploited as fully as had been anticipated, and the radius of action of the Me-109's was so limited that they had to turn around and head for home just as they should have been engaging in aerial combat with the enemy fighters. Combined operations of this kind were not usual in the German Luftwaffe at that time; they were undertaken only by the Training Division, with its specially selected and specially trained personnel.

For the following day, a different tactic had been selected. The bomber

208

282

were to fly without a fighter escort, bombarding the enemy airfields from a high altitude, and then withdrawing across the front line. It was hoped that the Red fighters would then follow them into the range of the German antiaircraft artillery units and into the area where the Nationalist fighters were being held on alert. The Red fighters, however, refused to accept the invitation and remained on their own side of the front line. The bomber units were moderately successful in their attacks and returned without any losses.

The only lesson to be learned from this particular mission was the fallacy of relying on a potential development; the Legion counted upon the Red fighters' reacting in a way which was certainly possible but not a foregone conclusion by any means. In this case, they happened to guess wrong.

The Legion tried its luck for the last time on 12 December, this time with still another tactical plan. The Nationalist bomber units were to drive the Red bombers and fighters from their bases into the air and to keep them there until they had no choice but to land in order to refuel. The moment the enemy aircraft landed, they were to be smothered by a concentrated attack by the Nationalist air forces. This time it was the weather which upset Nationalist plans; ground fog and snow flurries prevented most of the Nationalist aircraft from taking off, and the rest returned without having accomplished anything.

The three-day struggle against the Red air forces had cost a great deal of effort on the part of the Nationalist air units and had failed to lead to any tangible result. On the contrary, the Reds had demonstrated a degree of reserve which was entirely unexpected.

e) During the offensive in the Teruel-Zaragoza area, which began on 9 March 1938 and whose goal was a breakthrough to the Mediterranean, all available Nationalist air units were employed in attacks against enemy emplacements and enemy reserve forces located along the front. The following day, 10 March, they carried out a successful surprise attack against Red airfields.

208 - a

273

f) During the offensive in Catalonia, the Nationalist air units carried out a carefully-planned operation which was intended to deliver a serious blow against the Red air forces. Execution of this operation was entrusted to the fighter group of the Condor Legion. At dawn on 12 January 1939, approximately thirty-five Me-109's

fighter forces than in the bomber forces, which had always dominated the picture until then, may well have had its origin in the experience of the Condor Legion. The plans called for a doubling of the strength of both forces, so that by 1 April 1937 the ratio between the two was no longer one fighter group to three bomber groups, but rather ~~invexis~~ one to two³².

We have no overall figures available regarding the success achieved by the Legion's flying units in aerial combat against enemy aircraft. We only know that from the initial appearance of the German air units in Spain until 31 October 1938 -- in other words during the first thirteen months of operations -- a total of 277 Red aircraft were brought down by the German units³³.

There is no way of determining whether this figure includes Red aircraft destroyed on the ground and, if so, to what extent.

The German antiaircraft artillery forces also contributed their share to the establishment of air superiority. During the first thirteen months of operations, they brought down a total of fifty-eight enemy aircraft³⁴.

It is probably that the majority of these aircraft were downed by the light antiaircraft artillery, employed along the front lines against low-flying enemy aircraft. As has been pointed out, the Red pilots usually avoided the heavy batteries by remaining at higher altitudes and very rarely dared to attack targets in the Nationalist hinterland. In general only about half the antiaircraft artillery batteries of the Legion were employed at the front, ~~which~~ while the rest were assigned to protect the Legion's airfields, which, however, were never subjected to serious attack. In view of their small numbers, the record scored by the units at the front is all the more remarkable.

The systematic coordination of antiaircraft artillery and fighter aircraft was never attempted in Spain, since the Red air forces never attacked in large units.

32 - Grabmann, op. cit., pages 11 and 12.

33 - Volkmann, op. cit., pages 20 and 21.

34 - Ibid., page 21.

took off from their base at La Cenia, at the mouth of the Ebro, flew far out to sea towards the northeast, keeping low over the water, and, when they reached a point carefully predetermined from the point of view of course and time, veered off towards the west in order to surprise the Red airfields near Tarragona, Reus, and Valls with a low-level attack. The Rata group stationed at Reus was just taking off as the Me-109's started to gain altitude prior to attacking the field. The Ratas, once in the air, scattered into all directions and managed to escape. At the other two fields, however, the attacks were a complete surprise, as attested by the burned-out wrecks of twelve enemy fighter aircraft.

g) On 6 February 1939, shortly before the conclusion of the campaign to liberate Catalonia, the fighter group of the Condor Legion succeeded in destroying the last twenty-seven enemy fighters in a low-level dawn attack on an enemy airfield in the vicinity of Figueras, in the northeastern corner of the province.

This spectacular success was probably due not only to the growing experience of the Legion fighter units in the execution of such operations but also to the demoralized state of the Red pilots, who were so convinced of their coming defeat that they hardly bothered to fight.

The tactics employed in establishing air superiority by means of aerial combat against enemy aircraft had already been dealt with adequately in the sections on "fighter forces" and, in part, "bomber forces", so that here we need give only a brief summary of the experience gained on this sector and its effects on the German fighter arm.

1) Air superiority cannot be achieved by offensive operations only (i.e. by air attack on the enemy airfields; defensive operations of the fighter units are of equal importance in this respect).

2) Air superiority does not depend primarily on the number of fighter aircraft available, but rather on the quality of both machines and crews.

The fact that the year 1937 was marked by a greater increase in the Luftwaffe's

9) The Naval Air Squadron and the Coordination of its Employment with that of the Navy³⁵

In the beginning the naval air squadron of the Condor Legion (AS/88) was stationed at Cadiz and later, after July 1936, at Pollensa on the island of Mallorca.

Its personnel strength was 110 men.

The squadron was subordinate in all respects to the commander of the Condor Legion, although it was assigned to work together with Spanish and Italian agencies.

These Spanish agencies were the Air Command Headquarters (Jefatura del Aire), under Teniente Coronel Franco (a brother of the Generalissimo), and the Naval Headquarters (Base Naval); the Italian one was the Air Legion Headquarters (Aviacion Legionaria).

As chief of the Military Command Post (Commandancia Militar), the commander of the island held a general's rank. Later on a very necessary organizational change was made, and Almirante Morano, who was in charge of blockade operations, was appointed chief of the fleet, chief of the Naval Headquarters, and ranking commander of the island of Mallorca. A Navy liaison officer^s, who had had very little experience in the field of aviation, was permanently assigned to the Air Command Headquarters to handle the Navy's requests for the services of the German, Italian, and Spanish air units.

35 - The material contained in this subsection is based on the following sources:

Evaluation of the "Air Exercise on Bügen" of the Naval Air Squadron, Condor Legion, during the Period from mid-July until the End of December 1937

Volkmann, op. cit., pages 14 and 15

The Naval Air Units (excerpt from the book Rise and Fall of the German Air Force, published in 1946 by the British Air Ministry)

Generaloberst a.D. Jaenecke's report on his inspection visit to the Condor Legion in Spain (from a letter dated 13 November 1936 to General Deichmann).

This liaison activity was somewhat difficult in that orders from Salamanca required that the requests for air services from the Air Command Headquarters and from the Naval Headquarters had to be passed on separately to the squadron, which -- with the few aircraft it had at its disposal (seven, on the average, five of which were usually ready to take off immediately) -- did its best to fulfill all the requests. The captain of the naval air squadron had the right to decide between two conflicting missions.

A certain amount of difficulty was experienced in the beginning, until the Spanish agencies had become accustomed to the independent status of the naval air squadron, and later on there was some friction due to differences of opinion between the two Spanish agencies. The squadron captain needed all his skill and tact to make decisions between the two without jeopardizing friendly relations. A further problem lay in the fact that the requests submitted by the two Spanish agencies did not always conform to the military requirements of the squadron. For instance, there were often impulsive rush requests for aerial reconnaissance to confirm certain vague reports which were obviously untrue to begin with. Sometimes these requests were complied with so that squadron leaders could confirm to the Spaniards ^{that} ₁ their predictions as to the unreliability of the reports were accurate; later, the squadron simply acted independently in accordance with its own sources of information. The Spanish Air Command Headquarters kept the squadron well supplied with maps, aerial photographs, situation plans, etc.; its requests for air services sometimes went so far, however, as to call for the bombardment of telephone switchboards, for example, or other such targets too trivial to justify an air attack. Requests such as these were disapproved, of course, and the flying hours available to the squadron put to better use.

The missions which gradually evolved for the naval air squadron were the following:

- a) reconnaissance of and attacks on the Red fleet
- b) reconnaissance of and attacks on Red commercial shipping

212 - a

288

c) attacks on enemy harbors and coastal targets (also in conjunction with ground operations)

d) support of the German naval forces during retaliatory actions.

The wide variety of missions, coupled with the numerical inadequacy of the squadron, resulted in extremely careful evaluation of which missions were the most important and which could best be fulfilled effectively with the means at hand. To fulfill all of them with equal effectiveness was an impossibility from the standpoints of materiel and time -- this would have required at least three to four times as many aircraft as the squadron had at its disposal. The squadron could not even carry out constant aerial reconnaissance over the coastal sector between Valencia and Barcelona without neglecting its other missions.

Coordination with the Spanish reconnaissance squadron, also stationed at Pol-lensa, provided no appreciable relief or support. Thus the squadron captain decided that it was better to aim for the partial fulfillment of all the missions at a given time than to select one task, such as reconnaissance, for example, as the most important and to work on it to the exclusion of the rest. As a result of outside factors such as weather conditions, enemy defenses, the phase of the moon, etc. it was natural that certain missions took precedence during certain periods.

Re a), above: The Red fleet was a collection of poorly equipped vessels, manned by crews whose discipline and morale were extremely poor. The fleet avoided combat whenever it possibly could. Its home port was the harbor of Cartagena. Its primary mission, to make certain that supply transports from abroad reached the Red harbors in safety, did not require it to engage in combat with the Nationalist fleet, which, in any case, was unable to stop the supply shipments effectively. Besides, the British and French battleships, in accordance with the provisions of the Nyon Agreement, carried out this mission vastly more efficiently than the Red fleet could have done.

With its slow He-59's, the naval air squadron could have attacked the harbor of Cartagena only during the night, since it was protected by a ring of eight heavy antiaircraft artillery batteries with efficient fire direction. A night attack, on the other hand, was impossible because of the inadequate range of the He-59's when heavily loaded. The idea of starting an attack from the island of Ibiza was also

out of the question because of the deficiencies of the ground organization there, particularly in terms of night operations.

(Re 5), above: In the beginning the Spanish Navy authorized attacks on other than Red Spanish shipping discovered within the three-mile limit; later, however, such attacks were restricted more and more as protests were received from the admirals of the countries concerned, which refused to recognize the three-mile limit imposed by the Nationalists. These protests were a source of concern to the Spanish blockade chief and to the government in Salamanca. The blockade chief reserved the right to deal with ^{each} case independently, i.e. to hold a vessel found within the established limit or to release it, according to the nation concerned. The delay caused by the need to request permission to attack before taking any action was sufficient in some cases to permit the potential victim to escape. In four instances the naval air squadron itself gave the order to attack, since the ships concerned were obviously carrying contraband and since it would have taken too long to obtain permission from Palma. The subsequent investigations carried out by the Spanish Navy in connection with a steamer which had been attacked and sunk made it abundantly clear that the British and French were making ever greater inroads into the freedom of action of the men in charge of blockade activity. Later on no British vessel was permitted to be attacked or even searched, even if it happened to be in a Spanish port or within the three-mile limit. As a result, all vessels, no matter what their nationality, began to display the British flag, and the delivery of war material and food supplies to Red seaports flourished as never before. The imposing of a blockade and the warning that mines would be laid were theoretical deterrents only; in practice the British ships, which probably knew very well the location of the few mines which had actually been planted, continued to sail in and out of the Red seaports unhindered. The French ocean traffic between Marseille and Spain did ~~however~~ drop off somewhat, but to make up for it supply deliveries across the French border increased day by day.

215

291

In view of the relations between France and the Spanish Reds and the inefficacy of the restrictions imposed by the Nationalists, there was very little chance of disrupting the Red supply lines effectively.

Re c), above: As the difficulties mentioned in the preceding paragraph developed, the attacks on Red port installations were also subjected to increasing restrictions. No attack could be carried out as long as British ships were unloading or British military vessels happened to be in the harbor concerned. Occasionally, attacks on specific ports were banned during periods when it was known that ships were entering or leaving the harbor.

There were no restrictions imposed on attacks against targets along the coast. In addition to the material destruction they caused in the enemy rear area and to their devastating effects on enemy morale, these attacks were highly successful in that the enemy shifted more and more of his antiaircraft defense forces to the coastal areas, forces which could have been put to very good use along the inland fronts. The main target of these attacks was the railway depot at Port Bou, the channel by which the French supply shipments entered Spain. In addition attacks were also carried out on rail and highway systems, bridges, etc. The operations against rail and highway facilities in the region between Tortosa and Sagunto were carried out in connection with the start of the offensive on the ground; their purpose was to deceive the enemy as regarded the direction in which the offensive was to develop and to make it difficult for the enemy to utilize these facilities for the transport of troops and equipment to the north or south.

Generaloberst a.D. Jaenecke describes the operations of the naval air squadron against enemy rail facilities as follows:

"The success achieved by the naval air squadron was uncanny. As I saw with my own eyes, there was hardly a railway station along the Barcelona-Valencia line where there wasn't at least one wrecked ammunition train, surrounded by mountains of burned-out shells and cartridges. Truly an impressive sight.

215 - a

292

The German naval squadron pilots were known as the "railroad men" all along the coast, because they appeared each evening, regular as clock-work, sweeping in from the sea over the railway lines along the coast to attack and destroy the almost defenseless Red transport trains. The Reds tried all the tricks they knew.

216

293

and regrouped their antiaircraft artillery constantly in an effort to ward off these devastating attacks, but apart from one or two direct hits they were not particularly successful. There is no doubt that the German naval squadron pilots had discovered the secret of an operational method which was dangerous -- decisively dangerous, in fact -- to the Reds.

Occasionally the other Legion units had tried out the method of attacking the longer-distance rail lines in an attempt to damage the locomotives of moving trains so badly that all rail traffic came to a standstill. Seidemann, as I remember, was a past master at this sort of operation. But these were mere pinpricks in comparison with the successes scored by the naval air squadron."

Re d], above: The naval air squadron was never called upon to support the German naval forces in retaliatory actions for the simple reason that such actions were unnecessary.

Cooperation with the Italian air forces was anything but ideal in the beginning, since the Italians were hardly enthusiastic about the presence of a rival force on the island. The missions assigned to the two forces, the assignment of specific reconnaissance and attack sectors, individual air missions, timing, etc. were all determined in joint conferences with the Spanish admiral and his staff; the initial reaction of the Italians was either to refuse to accept the assignments given them or to accept them and then simply not carry them out. During July and August 1937, the Italian air forces stationed on the island consisted of one bomber squadron (nine Savoias 81) and one fighter squadron (nine Fiats). During this period the Italian air force, under Colonel Abri, made itself rather unpopular with the Spanish by its practice of constant talk and very little action. As a rule, those targets which it was important to hit were assigned to the naval air squadron, since the Spaniards had little confidence that the Italians would really carry out the assignments given; they had been too often disappointed by inaccurate Italian reports regarding the success of certain missions. It should be emphasized that the Italian fighter pilots displayed a very

high standard of training, which unfortunately was not true of the bomber crews. The majority of the losses sustained by the bomber squadron were traceable to insufficient training (faulty navigation, radio communications difficulties, etc.). Occasionally, when the bomber pilots were unable to locate their target, or an attack seemed too dangerous to risk, the bombs were simply unloaded over the ocean. There were two instances in which aircraft from the German naval air squadron, which happened to be in the area, were seriously endangered. One Italian bombardier attacked an Italian steamship by mistake; another dropped his bombs over Ibiza during a night raid, thinking that he was over Minorca. On three occasions, the naval air squadron was called upon to go out and search for overdue Italian aircraft.

Under Colonel Abri's successor, Colonel Morelli (pseudonym), cooperation between the two forces was much better and, as a result, there was more friendly personal contact among the squadron members. During this period, the Italian force on Mallorca was augmented by two more bomber squadrons (equipped with up-to-date Savoia-79's) and two more fighter squadrons (equipped with a newer model Fiat with auxiliary fuel tanks permitting a radius of action of two and three-quarter hours). These Fiats were capable of accompanying the bombers all the way to the Red mainland. In November six Savoia-81's and three fighter aircraft were transferred to Alcudia, and the three fighters were utilized at the same time in air defense operations over Pollensa. In December, one of the Italian bomber squadrons was transferred from Palma to the mainland.

As far as the Spanish air forces were concerned, to begin with there were only five flying boats of Italian origin (Cant-C models) stationed in Pollensa; they were manned by Spanish crews. As a rule only two of these craft could be counted upon to be ready for action at any given time, chiefly as a result of missing spare parts for the engines or air frames. Later on one Dornier-Wal squadron was assigned to Alcudia. These Spanish aircraft took care of aerial reconnaissance in regularly assigned sectors and zones. Coordination with them provided little relief for the naval air

216

295

squadron. In the first place, the German squadron rarely received the reconnaissance reports brought in by the Spanish, and in the second place those reports which they did receive proved to be unreliable. On a number of occasions the naval air squadron took the Spanish pilots along during their attacks on the Mainland coast.

Despite the frequent air raid alarms at Pollensa, the Red bomber forces did not attack the city. Its antiaircraft artillery defenses consisted of two 105 mm cannon of Italian manufacture, operated without fire-control devices by Spanish crews. A few machine-guns supplemented the antiaircraft artillery. Palma was raided three times by Red bombers (the second time by a force of twelve, and the third time by a force of twenty-two Martin bombers). The number of enemy bombers brought down was reported as four by the Italian fighter aircraft and nine by the antiaircraft artillery. "We have no way of checking the accuracy of these figures.

Tactical Experience Gained in Operations against Naval and Coastal Targets

a) The Red Fleet

1) During the reporting period the Red fleet was made up of the following vessels: the Jaime I (not available for immediate employment; later sunk in the harbor of Cartagena), the Libertad and the Mendez Nunes (usually ready for immediate employment), (12) 6 destroyers of the Charruca class (two of them assigned to the northern front), 2 destroyers of the Lazaga class, the gunboat Laya, 4 submarines (C-model) (three of them assigned to the northern front), 4 submarines (B-model), and a number of speedboats (the exact figure varies); the majority of the submarines were of French and British manufacture; there were also 5 ancient torpedo boats and a seaplane tender which was out of date and no longer usable; countless armed fishing boats had been pressed into service as patrol vessels. There were unconfirmed rumors of Russian and French submarines; one Russian submarine was reported repeatedly to be at anchor in Cartagena harbor, but apparently it was not available for employment. The home port of the fleet was Cartagena. The submarines, some of the destroyers, and the Laya were usually assigned to patrol the waters off Barcelona.

218 - a

lona, Valencia, Alicante, Almeria, and -- occasionally -- Mahon.

296

2) The primary mission of the fleet consisted in the employment of destroyers or patrol boats to pick up convoys coming from Algiers or Mactagenem. In addition, the ships were often moved around from harbor to harbor to demonstrate Red naval strength. At the beginning of the period with which we are concerned here, submarines were apparently operating from bases near Mahon.

219

291

Without taking into account the reasons (such as standard of training, condition of equipment, lack of ammunition, etc.), we can summarize the activity of the Red fleet as follows:

The military value of its operations was extremely slight, for the Red naval units were totally incapable of protecting their convoys in case of an encounter with Nationalist naval or air forces. In such cases, the merchant vessels were left to their own devices, and the escort units turned tail and fled. This happened once off the coast of Algiers, when a Nationalist cruiser attacked the convoy (on this occasion the "J.J. Sister" and the "Jaime II" were captured), and once near Calella, when a convoy was attacked by the naval air squadron. In the meantime there were constant rumors to the effect that the Red fleet was being reorganized, that torpedo carriers (submarines, speedboats, and torpedo aircraft) were being purchased, and that "important developments" were "in the offing", developments which would change the entire picture -- but which never came about.

3) Under the prevailing circumstances, the naval air squadron had little opportunity to come into contact with the Red fleet, which was being held back so carefully. Red naval units were attacked only when they were involved in operations against merchant shipping or when the Nationalist fleet requested air support of the squadron. As the Nationalists intensified their efforts to disrupt the Red supply lines, it became apparent that the Red fleet was no longer capable of fulfilling its task; in accordance with the provisions of the Nyon Agreement, British and French destroyers took over the job of escorting the convoys and carried it out with far greater efficiency. The following engagements took place between the naval air squadron and the Red naval forces:

30 July 1937: Two aircraft bombarded two escort destroyers off the coast of Calella (after the steamship being escorted had already moved inshore). One direct hit (with a 110-lb bomb) on the port side of one of the destroyers was reported.

219 - a

2916

The aircraft also attacked the speedboats (which had apparently been guarding the stranded steamship against submarines) with low-level machine-gun fire, whereupon they fled in a zig-zag course. One of the speedboats, trying to escape in the direction of Barcelona, was driven in to shore and set ~~afire~~ afire by machine-gun fire.

14 September 1937: The Red patrol boat "Llobregat" was attacked with airborne armament fire.

7 September 1937: One torpedo aircraft and three bombers from the naval air squadron attacked Red fleet units off the coast of Algiers in support of the Nationalist cruiser "Baleares", which had become involved in combat with them during the forenoon.

b) Operations Against Enemy Shipping

1) General

Even from the base at Pollensa, operations against enemy shipping had formed only a small part of the mission of the naval air squadron. For this reason they were rarely carried on for more than a week at a time, and then usually in connection with attacks on targets along the mainland coast.

Political Difficulties and Restrictions

In respect to the method of attack (previous warning, interpretation of the three-mile limit in terms of "long miles" or "short miles"), the ships of different nations had to be treated differently. Sometimes there were even bans on operations against the ships of specific nations. As a result, the nationality and the name of each ship had to be carefully identified before any action could be undertaken. Inasmuch as Red Spanish and Russian steamships were also abroad at the same time, this investigation was often dangerous. The problem was made even more difficult by the frequent changes in flags (Greek ships and other runners of contraband often sailing under British flag), abuses of flag privileges, and changes in names. The chief of blockade operations was the one to decide whether or not to attack, and he had to be asked before any action was taken. In one or two instances the captain of the naval air squadron gave the order to attack, since the delay involved in checking first with Palma would have resulted in the loss of the opportunity.

The Three-Mile Limit

It was only the waters within the three-mile limit which (apart from a temporary restriction) were not subject to limitations of any sort. Here attacks could be carried out without prior investigation, and investigation so close to the Red coast would have been extremely dangerous in any case since there was always the risk that

220 - a

300

Red fighter aircraft might appear on the scene. Thus the three-mile limit might be described as a miniature theater of war, but when it happened to be located off the coast of a large harbor protected by antiaircraft artillery and fighter aircraft, it was too small to intercept and attack a steamship making for port. After the ban on operations against the ships of certain nations,

issued on 21 November 1937, unrestricted warfare on enemy shipping was no longer possible in this zone, since the instructions issued by the nations concerned to their ship captains, to the effect that they were to avoid the three-mile zone along the coast of Red Spain, had nothing to do with it. It was fortunate that Red shipping (and probably the ships of pro-Red contraband runners and other smugglers as well) and Red coastal traffic had obviously been ordered to keep as close as possible to the Red coastline and to head for shore in case of attack. In this way an aircraft even without bombing it was sometimes able to destroy a ship by driving it to ground along the rocky part of the coast or at least to make it founder by driving it in too close to a sandy beach. Either one of these actions prepared the way for its complete destruction in a subsequent attack by several aircraft.

Signal Fires

In connection with other missions over the Red coast, the naval air squadron often attempted to put lighthouses out of commission by low-level attacks with airborne armament and machine-gun fire in order to make it more difficult for ocean traffic to navigate the Red coast during the night. Finally, probably as a result of these attacks, the Reds began to set up strong searchlights on the higher inland hills, presumably to aid the ships navigating by night.

2) Reconnaissance

As we have already mentioned, the reconnaissance of shipping was very rarely the only mission of a naval air squadron flight. It was usually combined with the reconnoitering of coastal targets and harbors -- in preparation for subsequent night or dusk bomber attacks -- or with evening reconnaissance missions in which the aircraft concerned attacked coastal targets themselves (in the absence of enemy shipping). On the other hand, every flight over water was also used for the reconnaissance of enemy shipping, provided time permitted. Unless specific orders had been issued to the contrary, potential attacks on enemy shipping were always given priority over attacks on coastal targets.

The limited number of aircraft available and the variety of missions which they were expected to accomplish made it impossible to keep any one ocean area, such as the Gulf of Lion or the approaches to Barcelona, for example, under constant surveillance. There was little point in asking the Spanish flying boat squadron to help in this undertaking because of the completely different radio communications equipment (different wavelengths, codes, and procedures). Other factors which argued against coordination were the small percentage of flying boats available for employment at any given time, the inability of the Spanish crews to carry out reconnaissance activity during bad weather, and the -- from the German point of view -- generally poor standard of training of the Spanish crews. The naval air squadron considered the Spanish reconnaissance reports to be very poor in terms of accuracy and reliability. This attitude is substantiated by the reports of certain reconnaissance missions over specific ocean areas and over enemy harbor installations which were flown by both the German and the Spanish squadrons. The naval air squadron scheduled regular missions to check on enemy shipping whenever reports were received to the effect that a number of ships were ready to leave port or were already under way. From time to time the squadron also reconnoitered the Catalonian coast, the Gulf of Lion, or the western waters of the Mediterranean as far as the Colombrete. On one or two occasions, at the urgent request of the blockade chief, reconnaissance missions with one or more aircraft were flown over the sea lanes along the French Moroccan coast and over the approaches to the harbors of Cartagena, Alicante, and Valencia. These patrol missions were usually carried out jointly with the Nationalist naval forces; each time they took up a good deal of flying time and brought no results whatsoever. The reason for requesting them in each case was the receipt of unclear information or uncertain reconnaissance reports (for example, older reports received from the Italians and referring to the waters around Sicily). One has the impression that the Spanish naval staff let its blockade operations be guided by the reports of the espionage services. It might have been wiser if they had limited themselves to

222 - a

303

blocking only one sea lane, but to blocking it effectively and successfully by means of intensive and systematic reconnaissance. Instead, although the resources of the naval air squadron were strictly limited, the naval staff requested it to obtain confirmation for each doubtful report received from espionage service sources. It is true, of course, that sometimes these missions were crowned with success, but only as a result of the systematic reconnaissance activity initiated by the squadron after the initial check had failed to elicit results. Yet the Spanish kept on turning up

with alarming bits of information and the request that the squadron take steps to confirm it immediately. In the vast majority of cases, the information turned out to be inaccurate. The Spanish have no talent for routine, systematic work unless it shows results immediately, although the ratio between success and effort is surely greater in the long run.

The three-mile zone was the primary target of reconnaissance activity. Early-morning reconnaissance along the Red coast began at dawn. In the first place, the steamships often selected the hour of daybreak to make their run to the coast, and in the second place, at this hour reconnaissance of the more heavily protected Red ports (such as Barcelona and Rosas) could be carried out with the least effort, i.e. by singly flying aircraft. Evening reconnaissance missions were flown according to the phases of the moon, i. e. when the hour of moon rise was favorable, first so that -- if an enemy ship should be sighted -- the target could be bombed by moonlight, second so that the aircraft could unload their bombs on some coastal target before returning, and third because the return flight and landing were easier to accomplish by moonlight. Daylight reconnaissance during bad-weather periods was usually rewarding since there were nearly always steamships which tried to take advantage of weather conditions to slip through the danger zone. At the same time, bad weather almost completely eliminated the danger of attack by enemy fighter aircraft.

Normally, the reconnaissance aircraft were provided with twenty 110-lb bombs as well as airborne cannon; for longer-range flights, they carried auxiliary fuel tanks and five 110-lb bombs. The larger bomb-load made it possible to launch an immediately successful attack against an enemy ship, crippling it so that it could not get away before the next attackers could arrive. Reconnaissance in pairs (one bomber and one torpedo aircraft) was tried out on an experimental basis on several occasions, but it used up so many flying hours that it could not be introduced regularly.

The prerequisites for operations against enemy shipping, and thus for the re-

224

305

connaissance of enemy shipping, were most favorable as long as unrestricted warfare was permitted within the three-mile limit. Nevertheless, even at that time careful identification of vessels was imperative, for they were usually sighted before they entered the zone. The aircraft commanders carried a list indicating the steamships regarded as suspicious and the refugee ships, which, of course, were not to be attacked. Thus they were able to tell whether any ship making its way towards the coast could be attacked or not. In case an attackable ship was identified, a radio message went out to the blockade chief asking for permission to attack. The authorization to attack often included confidential instructions as to strict or lenient interpretation of attack procedures. Inside the three-mile limit, the reconnaissance pilot himself could decide whether or not to attack.

In summary it must be admitted that the commander of the squadron was given a fair degree of freedom of action. In many cases he himself was responsible for evaluating the situation. The specific conditions and the prospects of success could hardly be transmitted adequately by radio, nor could the instructions of the agency on the ground. The squadron commander, however, was in a position to weigh the conditions and the prospects of success against the political repercussions which might arise and to decide whether to order an immediate attack in the assumption that radio authorization would have been given if requested, thus taking advantage of an opportunity which might otherwise have been lost, or to dispense with an attack which had little prospect of success, thus avoiding the political consequences which certainly would have arisen. All these difficulties could have been avoided if the theater of operations had been more clearly defined; this would have made the operations against enemy shipping much simpler and would have increased the chances of ultimate success.

The Attacks on Enemy Shipping

A total of ten merchant vessels were attacked at sea with bombs or torpedoes. Three were sunk (Edith, Uod-Mellch, Jean Weems), and two were driven in to shore.

224 - a

306

where they foundered (one near Calella and one near Tossa). In five instances, the first attack with bombs or torpedos was unsuccessful. In two cases a second attack by other aircraft was prevented by the approach of "Nyon" destroyers (the two

vessels which escaped in this fashion were the Cervantes and the La Corse), and in the other cases (the Noom-Julia, two steamers with an escort of patrol boats near Cabo Creus, and three sailboats off the coast of Castellon) a subsequent attack was prevented by other factors. In three instances, sailboats were attacked with airborne armament and machine-gun fire. One steamship (the Cassadaigue) was brought into Palma but had to be released again at the order of the French admiral.

Usually it was the first attack, by the reconnaissance aircraft, which was decisive, and for this reason the aircraft were equipped whenever possible with a full load of twenty 110-lb bombs and with airborne armaments. With this equipment the reconnaissance pilot could usually put the steamship out of commission, either by forcing the crew to leave the ship in lifeboats, by scoring a direct hit, or by driving the ship to the coast. Bombs of larger caliber were avoided because of their low hitting accuracy in an initial attack, and torpedos were avoided for the same reason, coupled with the fact that they often turned out to be duds. Airborne armament fire across the bow served as a signal to the ship to show its flag, to stop, or to stand by for further instructions. Additional fire into the supplies loaded on the decks usually accelerated the process of getting out the lifeboats. In the case of larger ships, however, the fire from 20 mm airborne armaments and machine-guns was incapable of damaging any more than the supplies piled on deck and the superstructures of the vessel. The ship's water-line, rudder, and propeller were fired at repeatedly, but without appreciable success. The Varta signal lamp proved useful for the transmission of orders.

Attacks with 110-lb bombs were generally carried out from a low altitude (985 feet) with the aid of a night bomb-sight. The bombs were aimed carefully to hit the ship diagonally against the wind (more favorable when the ship was stopped and drifting diagonally with the wind). Aiming was tested first with single bombs and any necessary corrections were made by altering the range angle or the angle of impact, so that the bomb would land just barely short of the ship. Then the bombs were released

in groups of five. The most favorable method seemed to be to release the groups of bombs at very close intervals and to aim them at the side of the ship in such a way as to concentrate their effect on one particular point. Apparently because of the slight delay involved, direct hits on the deck itself usually damaged nothing but the superstructures or any supplies piled on deck; they did not penetrate into the hold area. On the other hand they often managed to start fires. Delaying the fuse action, of course, increased the damaging effects of any bombs which landed just short of the side of the ship.

Attacks with 550-lb bombs were carried out from medium altitudes (3,300 to 6,500 feet) with Boykov tubes. The only confirmed direct hit by a 550-lb bomb, on the forecastle of a steamship, led -- together with hits by two 110-lb bombs -- to the sinking of the ship.

On one occasion a depth bomb was employed against a steamship. Since the crew using it was not yet entirely familiar with its operation, they failed to allow for drift and it exploded short of the target. Since there were no more depth bombs available, the experiment could not be repeated. It is probable that this weapon would have been very effective against smaller steamships (causing leaks), and that it could also have been employed to good effect in harbors which were not so heavily defended that day or night low-level attacks needed to distribute them could not have been carried out. There was no opportunity to try out bombs equipped with the type 15 fuse in low-level attacks. It can be assumed, however, that the low force of penetration, occasioned by the shorter trajectory, would have limited the effects of the bomb to the superstructures of a ship. The higher rate of hitting accuracy in the use of 550-lb or 1,100-lb bombs, however, would have made up for this defect. At the very least the vessel would be set on fire or crippled by the destruction of its superstructures.

The most efficient offensive weapon against stationary vessels is without doubt the torpedo. At that time, however, torpedoes were still so unreliable that they

226 - a

309

could not be compared with bombs in terms of usefulness at the front. Developed to the point of full readiness for front employment, torpedos are certainly preferable to bombs, even against ships lying at anchor in a harbor, provided that specific conditions (depth of the water, position of the ship, geographic characteristics of the harbor concerned) are favorable.

Operations Against Coastal Targets

1) General

After the German naval air squadron had been successfully transferred to Pol-lensa, the following situation obtained in respect to operations against targets located along the coast of the mainland:

a) The most important Red supply centers and routes (both water and land), as well as a number of vital industries, were located along the coast. From the military point of view, these targets were not adequately protected.

b) The Nationalist forces carried out the following operations against enemy targets on the coast: occasional attacks by Nationalist naval forces (the purpose here was rather a demonstration of strength than an attempt to destroy), and sporadic raids on coastal targets by the Italian bomber units stationed at Palma.

It was imperative that the operations against enemy shipping, seriously hampered in their potential effectiveness by the need to consider political repercussions, be supplemented by attacks on the Red supply harbors.

2) The Legion's naval air squadron contributed its share to this project in the form of attacks on the harbors of Catalonia. Most of these raids were directed against the ports located along the coast from Port Bou to Tarragona, while the sector from Tarragona to Cartagena was assigned to the Italian air forces. At the request of the Nationalist commanders, one joint attack was carried out by the naval air squadron and the Italian units against the harbor of Valencia. Within the coastal sectors assigned, the forces responsible established their own priorities in accordance with reconnaissance reports and the reports of the intelligence services.

3) When the Reds began to route some of the supplies previously received by ship over land along the Corbore - Port Bou line, the Nationalists added the only fully operable rail connection between France and Red Spain to their list of coastal targets. The transshipment depots at Port Bou and at the Gullera bridge (southeast of Valencia) were regarded as the most vulnerable points of the line.

227 - a

311

4) In November, with the concurrence of the blockade chief, all operations against enemy ocean traffic were suspended, and when they were resumed later on they were made subject to crippling restrictions, which, of course, considerably diminished their prospects of success. During this period the operations staff of the German naval air squadron ordered a series of raids on the communications lines between Catalonia and Valencia, particularly those in the sector between the Ebro and Sagunto,

in support of a planned Nationalist offensive. These raids were assigned top priority during late November and December, and other missions were carried out as time permitted.

5) Occasionally, at the explicit request of the Nationalist commanders, the naval air squadron carried out attacks on targets which lay outside the limits of the sector assigned to it (the blast furnaces at Sagunto, the bacteriology laboratories at Masnou).

Method of Employment and Attack

1) The method of employment utilized during operations against coastal targets was characterized by the following:

a) Advantages

- The possibility of carrying out attacks along the forward line, which meant that alternate targets could quickly be substituted for the primary ones.
- The possibility, in view of the way in which operations were conducted during the Civil War, of obtaining a clear picture of the situation in the operational area, plus the availability of an intelligence service whose reports were extremely detailed, though often exaggerated.

- The slowness of the Reds to set up adequate antiaircraft defenses and to get their fighter aircraft into the air.

b) Disadvantages

- The numerical inadequacy of the available aircraft, which were never enough to take care of all the available targets.

- The fact that the squadron was equipped with an out-of-date, very slow aircraft model, incapable of employment under all conditions.

- The lack of a fighter escort.

2) The operations against coastal targets were strategic in nature, as evidenced by the fact that many attacks were carried out against power plants and supply lines in the enemy hinterland. In keeping with the character of civil warfare, the popu-

228 - a

313

lation was spared whenever possible.

3) In view of the type of aircraft the naval air squadron had at its disposal and the number available, the squadron had no choice but to avoid enemy defenses whenever it could, only going in to meet them when there was a known weakness which could be exploited. Once a target had been attacked so often that one could assume, in view of the sluggishness typical of the Reds in the establishment of their anti-aircraft defenses, that such defenses were finally ready for action,

or when the readiness of these defenses was confirmed by reconnaissance reports (as was usually the case), the squadron left that particular target alone for a while and concentrated on other areas of the coast -- only to descend upon the original target in a subsequent, unexpected attack. During the periods when such targets as these were being deliberately avoided, operations against enemy shipping were often given temporary priority.

4) The attacks of the squadron were planned in accordance with the anticipated strength of enemy antiaircraft defenses. When enemy fighter aircraft were expected, attacks in full formation or attacks at dusk were planned; when antiaircraft automatic weapons were expected, the squadron dispensed with low-level attacks and restricted itself to horizontal bombardment; in the latter case the bombers remained at altitudes above 6,500 feet, as they did in the case of anticipated enemy antiaircraft artillery. Whenever the enemy defenses permitted, however, the squadron selected that method of attack which gave the greatest promise of success. Bombardment attacks were often carried out in connection with harbor reconnaissance missions or subsequent to shipping reconnaissance missions, when no enemy shipping could be discovered. Since reconnaissance flights of this type were always carried out by singly flying aircraft, whenever enemy defense activity seemed fairly strong, the combination between reconnaissance and bombardment could be accomplished only by aircraft flying in groups of at least two or by singly flying aircraft during dusk missions. Night bombardment missions without benefit of previous weather reconnaissance usually resulted in the bombardment of alternate targets. The majority of daytime bombardment attacks were carried out in the early evening hours.

General Experience in the Field of Tactics

Night Bombardment

Of a total of 121.65 tons of bombs, 45.75 tons were dropped during the night. Bombardment of this type was restricted to moonlight nights. Night bombardment with the use of aircraft parachute flares to illuminate the target was not attempted.

The advantages of night bombardment missions by moonlight are the following:

- a) Aircraft Operation: Taking off, landing, flying in formation, and the accomplishment of the flight are easier.
- b) Bomb Release: As long as the moon is bright and the cloud cover slight, the attack of pinpoint targets is just as easy as during the day. Coastal targets, especially harbors, are easy to identify because of the light and dark contrast between water and land; docks and ships can also be easily identified.
- c) Enemy Antiaircraft Defenses: Searchlights are of limited effectiveness. We have no information as to whether or not bright moonlight is an advantage in night fighter operations. There are intelligence reports referring to the employment of Red night fighters over Valencia and Barcelona; one Nationalist bomber is supposed to have been shot down over Barcelona and a second damaged by a number of hits. The naval air squadron never encountered enemy fighter aircraft during its night operations. During a period beginning two or three days before and lasting two or three days after full moon, the moon provided sufficient light until about two hours before it set -- even longer if the weather was particularly clear or if the hour of setting was propitious. The water, of course, ~~xxx~~ reflected the light of the moon, so that docks, coastline, or ships were easily visible as silhouettes. From the standpoint of the target, the approach and departure flights were carried out with the direction of the moon, so that the effectiveness of the enemy searchlights was greatly diminished. Night bombardment attacks without moonlight (or aircraft parachute flares) on well-darkened targets would probably be effective only in the case of large-area targets such as cities. The lack of information on weather conditions (especially cloud cover) over the target was a source of difficulty for the naval air squadron. The fact that there were no weather reports pertaining to Red territory available made any weather forecasting very uncertain. Whenever a night bombing attack was planned, it was preceded -- whenever possible -- by an evening reconnaissance flight which also attempted to check on weather conditions over

250 - a

3106

the contemplated target. In the event that several aircraft were to participate in the attack, the second aircraft waited to take off until the first had reported on weather conditions along the route.

But even these reports were not always accurate, for the coast of Spain is noted for the rapidity with which low-level fogs or low-lying cloud covers make their appearance during the night, so that sometimes within an hour

a target which had been perfectly visible before might be shrouded in fog or clouds. Under these circumstances, there were a number of factors which might combine to make the bombardment mission a failure -- mountain peaks appearing out of the cloud cover, enemy defense operations, faulty orientation, or the release altitude required by the bombs being utilized.

In these cases it was a good thing that the Reds put their searchlights and barrage fire into operation as soon as they heard the aircraft approaching. Since the German pilots had access to intelligence reports on the location of the searchlights, they were able to use them as navigation aids. When the pilots came in close enough, they could see not only the bright spot cast by the searchlight cone against the cloud cover, but also the searchlight itself (a small blue light), and this, of course, helped in the aiming of the bombs. The brightness of the moon was not affected as long as the cloud cover remained lower than 5/10; thus the bombers sometimes waited until the cloud shadows had left the target and then took off in spite of the clouds. High-level clouds and medium-level clouds, as long as they let the moonlight through, have no adverse effect on visibility. In some cases night bombardment attacks were flown in formation, the rest of the aircraft taking off after receipt of a radio message, signal flare, or -- the simplest and surest -- PVC⁺ flare from the lead aircraft. Other missions were flown in groups of two or in single flight, with one-half hour or one hour intervals between take-offs. The use of different approach routes, or detours due to faulty navigation may easily result in the aircraft appearing in too quick succession over the target. The bombardment of a previous aircraft could be recognized easily by the activity of the antiaircraft defense forces or by the effect of the bombs themselves. Poor weather conditions, storms, icing (with the resultant failure of radio communication) often resulted in situations in which air traffic could no longer be controlled effectively, so that the attack had to be discontinued or the aircraft routed to alternate targets. The majority of attacks were flown by single aircraft or aircraft in groups of two, with the par-

231 - a

318

ticipating aircraft assembling for the approach flight in formation. Once arrived over the target, the formation broke up or (provided that ~~sixteen~~^{both} aircraft followed the same approach route) loosened as long as the bombs were being released, and then assembled once more for the return flight on a previously determined course and at a previously determined altitude. Since each pilot was able to observe the other during the bomb-release operation,

+ - Translator's Note: Sorry, but I was unable to find this abbreviation defined anywhere.

the assembly maneuver usually succeeded. As far as timing was concerned, the majority of attacks took place either just before the moon rose or just before it set. The altitude was selected in accordance with anticipated enemy defenses, the type of bomb being used, and the altitude of the clouds, if any. Because of enemy monitoring activity, it was always a good idea for the aircraft to approach the target at a high altitude, with their engines cut off; in this way it was sometimes possible to delay the enemy alarm until the bombs had already exploded, or at least to make it difficult for the monitoring service to determine the exact ~~mf~~ location of the target to be attacked.

Considering the night bomb-sight in use at that time, it took a great deal of practice to release the bombs successfully over the target after a glide. Once the bombs had been released, the aircraft turned abruptly and departed from the area with the engines throttled back (to avoid exhaust flames), sometimes flying in zig-zag curves. The approach route was selected in accordance with the extent of the target, the degree of illumination (with or against the moon, depending upon its brightness), enemy defenses, and wind direction. The direction of piers and quais was determined ahead of time from aerial photos of the harbor concerned and compass readings computed. It was a good idea to set the selected approach course on the telecompass, since the latter provided a simple and constant method of control, particularly useful for rudder corrections just before reaching the target area. Ordinarily three 550-lb bombs or one 1,100-lb and one 550-lb bomb were released at once. In the case of targets stretching over a large area, a series of fifteen 110-lb bombs was often utilized. In the case of target complexes such as Barcelona, the approach route was selected in such a way that the bombs could be released in three separate groups, from the same approach direction, on three separate targets. The night bomb-sight was used almost invariably. In the case of targets which were not well protected by enemy antiaircraft defenses, the attacking aircraft made several approach flights, correcting the lead angle each time in accordance with the position of im-

232 - a

320

pact. When such attacks were carried out by a group of aircraft following one another in the same approach course, the correction angle was computed by the lead aircraft and radioed to the others. The following aircraft did not take time to calibrate the correction to their individual courses; ordinarily they had no time to do so.

233

321

The prospects of success were better if they got rid of their bombs immediately over the target before it could be blacked out and simply corrected their aim according to the point of impact of the first bombs. The basic flight speed was calculated in accordance with navigational factors characterizing the approach route. In the beginning the Lotfe-6 was employed on a number of occasions. Its suspension in the He-59 was a rather makeshift affair, however, and its perpendicular adjustment was not reliable. In addition there were difficulties due to the wiring. In the older model of the He-59, with an airborne battery, the electrical power often failed at the moment the bombs were to be released, so that the motor refused to function and the guide light went out. There was still another difficulty -- since the bombs were not released automatically, the lights behind the scale dial and the rhombus had to be turned on, and when the target itself was only weakly illuminated they were strong enough to blind the bombardier. Thus, after the necessary calculations had been made at the beginning of the run, the bombs were prepared for release, and the sight motor and scale dial light turned off, leaving only a weak light to illuminate the cross hairs. The bombs were then released the second the target appeared at the intersection of the cross hairs. Because of the difficulties it involved, the use of the Lotfe sight was later discontinued during night bombardment operations. Successful navigation during night bomber flights under uncertain weather conditions required a great deal of skill in direction finding from the aircraft. Without the help of radio navigation techniques, the frequent night missions could not have been carried out except at a grave risk to aircraft and crews.

The Tactics Employed in Low-Level Attacks with 20 mm Cannon and Machine-Guns

General: Low-level attacks with airborne cannon and machine-guns were often carried out as a secondary mission in connection with bombardment operations against enemy shipping and coastal targets. They were never planned as primary missions in themselves. In general, the low-altitude attacks were carried out after bombardment, in order to avoid the risk entailed in flying too close to the ground with a loaded aircraft.

Targets: As in the case of the bombardment attacks, the target of low-level raids was also the materiel of the enemy. The choice of targets was a determining factor in the success of the raid, for airborne armaments can be used effectively only against easily accessible and inflammable objects, such as fuel depots, trucks and passenger vehicles, truck columns, railway trains, locomotives, and speedboats. When low-level attacks were carried out on large vessels, their purpose was to force the crew to abandon ship. In one case a low-level attack resulted indirectly in the destruction of a steamer, when its crew ran it aground. Low-level attacks were not undertaken against living targets.

Preparations: While preparations for daylight attacks were often made simply as a matter of routine, without any specific targets in mind, the preparations for night missions had to be carried out in minute detail. The pilots concerned were carefully oriented with the help of maps and photographs. On-the-spot control by means of signals given by the lead aircraft is extremely difficult under wartime conditions, and it rarely proved successful. Predetermined assembly points ought to have been established.

Enemy Antiaircraft Defenses: Targets protected by machine-guns or antiaircraft machine-guns were never attacked during the day, and during the night only when conditions were unusually favorable. The strength of enemy defenses was either already known to the attackers or was ascertained from a safe altitude during the bombardment attack which preceded. As a rule, the attacking aircraft passed over an area guarded by antiaircraft machine-guns at a safe altitude, though on several occasions it happened that aircraft flying at a lower altitude were recognized only with difficulty, so that the fire returned automatically by the airborne gunner could hardly be very effective. In most cases returning the enemy's fire was enough to keep down the anti-aircraft defenses. While over the area itself, the airborne gunner took cover and did not return to his gun until the aircraft departed. When a number of aircraft participated in the attack, their combined fire was usually sufficient to keep down

235

323

enemy antiaircraft fire. Unless the enemy batteries were using tracer ammunition, their positions could not be identified. For this reason low-level attacks on cities, harbors, and railway stations were avoided; targets located along an open railway line or highway were preferred. If the enemy sent up fighter aircraft, the low-level attack was broken off, and the aircraft departed at a low altitude to decrease their chances of being seen by the higher flying enemy fighters.

Method of Employment: Low-level attacks were carried out during the day or at dusk and, during moonlight periods, also at night, by singly flying aircraft or by groups of up to three aircraft. A group of two aircraft proved to be most favorable. Ordinarily the aircraft separated for the attack itself, since more than one run over the target was usually necessary. Group attacks were carried out in loose formation, but were possible only when one target run was sufficient, for banking and turning in formation at a low altitude is an extremely difficult maneuver. Targets protected by antiaircraft artillery required the employment of two or three aircraft. Provided they followed one another in close succession, their return fire could be counted upon to hold down that of the enemy. The problem of assembly in case of an attack by enemy fighters had to be given a good deal of consideration. The chief difficulty was the near impossibility of recognizing the lead aircraft as such. Thus blinker signals were worked out. It need not be emphasized that independence and resourcefulness on the part of the individual pilots were a sine qua non for the success of such an assembly maneuver.

Transmission of Orders: The use of intercommunication facilities for the transmission of orders from the crew captain to the pilot and to other crew members was possible only within limitations while the aircraft was engaged in a low-level attack or when it was attacked itself by enemy fighters. Thus the pilot had to be so familiar with the various methods of approach that, after the previous detailed briefing, only a word or two were necessary. Most of the communication between the captain and the pilot took the form of visual signals. Radio communication or blinker signals

235 - a

324

from the lead aircraft to the other aircraft of the group were hardly feasible. Besides, even during group attacks the flight formation was so dispersed that the following aircraft were practically independent. Thus their pilots were in a position to take advantage independently of any unexpected favorable developments. When the group was made up of two aircraft,

236

325

the second one could veer off to the right or to the left of the lead aircraft, depending upon which seemed most promising. In the case of groups of three aircraft, the order of approach was established ahead of time, unless the wedge formation was to be retained during the target run.

Weapons: The weapons of all the aircraft's gun stations could be used in operations against ground targets. The main weapon was the machine-gun or airborne cannon installed in the nose, since it had the clearest field of vision and thus the best chance of success. The target approach route was computed with this weapon in mind. The gun in the belly station could be fired downwards to the rear. The guns mounted in the lateral stations were of limited effectiveness only, since the gunner could not see the target until it was too late. Thus he had to know in advance whether the attack was such that he was likely to have a chance to fire and then to watch carefully for the opening of fire by the nose gunner. The tail gunner had the poorest chance of all, since his field of fire was only downwards; he could also fire towards the sides, but moving the gun into position was such a complicated maneuver that there was little point in it. A weapon installed above and to the rear is only rarely effective against ground targets, and the tail gun station was utilized primarily against enemy antiaircraft defenses. The ammunition for the weapons was selected in accordance with the type of target to be attacked. In general, high-explosive ammunition proved to be the most effective. Armor-piercing shells were used against targets such as tanks and locomotives. Phosphorus bullets with steel core proved to be the best machine-gun ammunition, since they combined armor-piercing and incendiary effects.

Approach Method: The aircraft approached the target with their engines throttled, gliding at an angle of about 20° from an altitude of approximately 6,500 feet. This method of approach was often applied in attacks against specific targets during the night or at dusk. It was useful in that it combined the advantage of surprise with the opportunity to get a more complete picture of the situation. An easily identifiable landmark about ~~nine~~ miles short of the target was selected in advance.

236 - a

326

When the aircraft reached this landmark, at an altitude of about 6,500 feet, they cut their engines and approached their target in a glide, adhering carefully to a previously calculated rate of so many feet per second. All the available aids, such as telecompass and variometer, were used in this maneuver. The relatively short duration of the low-level flight was a decided advantage. A number of fuel tank installations were attacked by this method, but

with the approach glide at a low altitude (165 feet). This was also the method used in strafing a highway or railway line, with the approach at a relatively low altitude (656 - 1640 feet); the limited view of the target was, of course, a disadvantage. Normally a low-level attack was launched from an altitude of 656 to 1,640 feet. In the case of highway or railway strafing attacks, the targets were identified early enough that an immediate attack could be carried out. There was, of course, some danger that the aircraft might unexpectedly run into enemy antiaircraft artillery.

Method of Attack: The aircraft, its guns rigid, flew directly at the target in order to provide the best possible conditions for the nose gunner (i.e., avoidance of linear travel of the target). The gunner opened adjustment fire at a range of approximately 2,424 feet, or 1,212 feet in the case of smaller targets. Corrections were made in accordance with the impact point of the shells. The sight was fixed at a range of 1,212 feet. The range was reduced for machine-gun fire. If the aircraft flew directly over the target, the belly gunner had a good opportunity to fire effectively. No attempt was made to use the weapon mounted above and to the rear, since its field of fire was totally unsuited to operations of this kind. If the aircraft flew past the target, instead of directly over it, the belly gunner had no chance to fire because his lateral field of fire was very limited. In the case of a lateral attack, only the nose and tail gunners had a chance to fire, and both had to contend with linear travel of the target at the moment of their fire for effect. This linear travel was greater and more of a problem than the perpendicular travel noted directly over the target. If the aircraft veered off just before the target, the two rear gunners had a brief chance to fire, one after the other. If the aircraft veered off directly over the target, on the other hand, they had very little chance. The best possible directions of attack had been worked out for each of the situations described above.

Highway Strafing: The aircraft flew along directly over the highway, so that -- in a single run -- the nose and belly gunners could fire on each vehicle making up the column. The danger space of the weapons was fully exploited due to the length

of the target. If a second attack was to be carried out, the aircraft had to be sure to move off far enough from the highway before turning. After a 180° turn, the second attack was carried out just like the first.

Moving vehicles usually failed to hear the approach of the attacking aircraft. If there were two attackers, the second aircraft flew over the highway while the lead aircraft flew out in front along the highway; in this way each kept out of the other's way. Attacks by a group of three aircraft flying in formation proved to be not very effective.

Attacks on Railway Trains: In the case of moving trains, the attack was carried out from the rear along the length of the train, in order to avoid linear travel of the target insofar as possible. In the case of stationary locomotives, a diagonal attack was better, because the target area was greater.

Attacks on Ships: Ships were ordinarily attacked with airborne cannon from the diagonal, since it was easier this way to hit the waterline and the vulnerable points (such as the bridge) from relatively far away. An attack along the entire length of the ship, carried out by singly flying aircraft following each other in close succession, had the advantage that the entire deck area could be hit again and again by machine-gun fire.

Night Attacks in Groups of Three Aircraft: Proper illumination was the main prerequisite for night attacks carried out in formation. During the approach flight, the formation loosened up and each aircraft assumed the position assigned to it. If it was necessary to turn over the target, the following aircraft had to deviate left or right depending upon the direction of turn. This was necessary in order to avoid their getting into each other's or the lead aircraft's way during the departure flight. It was a good idea to agree in advance on the departure flight route, since this facilitated the assembly maneuver.

Effectiveness: Several tanks of two large fuel depots were set on fire by the airborne armament and machine-gun fire of low-level attackers. Approximately twenty

329

238 - a

locomotives were so badly damaged by airborne cannon and machine-gun fire that --
as confirmed from the air -- steam began to escape from their boilers at several
points. Thus it could be assumed that they would be out of action for some time.
About ten of the vehicles attacked

330

239

went up in flames; no information on the fate of the rest is available. The incendiary effect was due to the use of phosphorus bullets with steel core. Two speedboats were set on fire by airborne armament and machine-gun fire, and one steamship was driven aground by airborne armament fire.

Tactics Employed During Attacks by Enemy Fighter Aircraft

General: As a rule the naval air squadron could assume that it would have to contend with only one of the two types of enemy antiaircraft defenses (antiaircraft artillery and fighter aircraft). The squadron never encountered both types at the same target. During the day the squadron carried out no low-level attacks against targets protected by antiaircraft artillery, and during reconnaissance missions the aircraft were able to identify enemy batteries before they came into firing range. Thus daytime defenses necessarily took the form of fighter aircraft defenses. And since enemy night fighters (contrary to reports) were never encountered, conditions at night were just the reverse. While the squadron encountered only a very few enemy fighter aircraft in the beginning, this situation changed later on so that it had to be on the lookout for Red fighters even along the coast. The planning, preparation, and accomplishment of missions naturally had to take these factors into account.

Evaluation of the Enemy Fighter Forces: The only enemy fighter aircraft to appear were the single-seater Curtiss and Boeing (Rata) models. The Nieuport, identified during the initial phase of operations, soon disappeared from the scene of action. No twin-seater fighter aircraft were observed. On one occasion, however, a group of three He-59's was attacked -- without success -- by a Red Martin bomber. The Red fighters had at their disposal at least two, but usually four, rigidly mounted machine-guns. Tracer ammunition was employed. There was no indication that the enemy was using phosphorus bullets, and judging from the effectiveness of his hits, this is extremely unlikely. The Red fighter aircraft were not equipped with airborne cannon. The enemy fighter pilots were anything but expert in night flying; they invariably left the scene of action as soon as it began to grow dark. The crews of the German

239 - a

331

naval air squadron, however, were prepared for enemy night fighter attacks, for the Italian air forces had reported that one of its bombers had been shot down during the night over Barcelona by an enemy night fighter aircraft.

240

332

Their own observations had taught the pilots of the naval air squadron that they had to be alert for dawn attacks by enemy fighter aircraft which had taken off during the night.

The enemy aircraft either flew singly or in groups of five, in the latter case in very loose formation. They dispersed for the attack. Their attacks were not based on coordinated action, although some rudimentary attempts in this direction were made. For example, when several enemy fighters were involved in an attack, one of their number often headed out over the water in order to cut off the escape of the He-59 under attack. The fighter aircraft out over the water then usually stood by, while the rest kept out of the range of the He-59's (6,560 feet), coming in for occasional attacks from above and behind. On one occasion the Red fighters tried a kind of pincer operation in the air, with two aircraft coming up on each side of the victim. Another time two Red fighters attacked from the front while two others attacked simultaneously from the rear. One singly flying Red fighter carried out a successful attack by approaching from the direction of the sun; others took skillful advantage of the dead angle occasioned by the tail assembly of the aircraft under attack. The undeniable superiority of the Red fighters over the He-59 in terms of speed made it easy for them to pick up a He-59 and to remain on its tail. Sometimes they followed the He-59's as far as eighteen miles out to sea, and on one occasion a Red fighter tried as many as seven attacks over water. In attacking a group of two or three He-59's, especially when the latter opened fire with their airborne cannon, they were extremely cautious, and usually veered off as soon as they came within 1,312 feet of them. Their skill in firing was anything but outstanding, yet they usually succeeded in scoring up to three direct hits per attack. Still, in view of the fire cones, whose impact on the water could be observed, their results should have been much better.

Enemy Strength and Aircraft Reporting Service: The number of fighter aircraft assigned exclusively to the Catalonian coast as far south as Valencia can only be estimated roughly on the basis of agents' reports and personal observation. In any

333

241

case, there was always danger of encountering enemy fighters over Rosas, Barcelona, Tarragona, and Valencia. It is extremely difficult to evaluate the effectiveness of the enemy's aircraft reporting service, since presumably not every alarm led to a fighter scramble and subsequent encounter and since it is likely that the fighter aircraft were often held back at those targets considered most vitally in need of defense. Nevertheless, the blackout of coastal targets during the night was an indication of the growing efficiency of the service. It was, of course, a great advantage for the naval air squadron pilots that they could approach their targets from the sea, although there was always a chance that their take-off might have been reported by secret transmitter from Mallorca. Targets which the enemy expected to be attacked were often guarded by fighter patrols. For example, a steamship which the squadron had driven onto the beach was guarded by enemy fighters the following day, although enemy antiaircraft defenses in that area were otherwise very inactive. It must be taken into account, of course, that the defenders were in a very difficult position due to the large number of targets to be protected.

The Employment of the Naval Air Squadron: The missions of the squadron were scheduled for periods during which there was assumed to be little danger of attack by enemy fighter aircraft. Since timing also depended upon other factors, such as reconnaissance and weather conditions, this meant that missions sometimes had to be set up for unfavorable times. Since coastal reconnaissance and the reconnoitering of the most important harbors took approximately one hour and since these missions had to be carried out during daylight hours, the reconnaissance aircraft was inevitably exposed to attack by enemy fighters. And, as a matter of fact, the reconnaissance aircraft were the ones most frequently attacked. Enemy fighters did not appear during the dawn missions, i.e. when the reconnaissance aircraft reached the Spanish coast just as it was beginning to get light and left half an hour later. If the Red fighters were abroad at this time, then obviously they had difficulty in locating the reconnaissance aircraft. Needless to say, it took a good deal of skill, in

241 - a

334

view of the long approach flight, to arrive at the Spanish coast just at the right moment. Sometimes the reconnaissance aircraft had to wait outside listening range before going in. Dusk reconnaissance missions were advantageous in that the enemy fighters broke off combat early in order to be able to land while it was still light. This still left sufficient time -- and daylight -- for the accomplishment of the re-

connaissance mission involved. Usually it was quite easy to shake off enemy fighters by flying out to sea. During daylight missions it was even more important than during night missions to avoid being reported ahead of time, which meant that the squadron pilots had to detour around known aircraft reporting stations. The missions themselves had to be accomplished as quickly as possible, for it was almost certain that enemy fighters would appear during a lengthy low-level attack following bombardment. During the last phases of operations daylight missions were undertaken only in groups of two or three aircraft, accompanied by a bomber whenever possible.

Preparations: The preparations for an engagement with enemy fighter defenses were made up of countless small details, any one of which might turn out to be decisive. One of the most important prerequisites for success was the sighting of the enemy aircraft in time to open fire from an effective range.

Each crew member was ordered to have with him, and use when necessary, dark glasses during daytime missions; the crew captain assigned observation sectors and ordered all crew members to stand by as the aircraft entered the danger area. By ground this time all the guns were manned. The radioman had cut off contact with the ~~belly~~ gun station, and from that point on radio communication was held to a minimum. Upon receipt of a message from the radioman (in the tail station), the mechanic (assigned to the belly station) had to go up and take over observation to the rear because the view was more comprehensive from here than from the belly station. The machine-guns and cannon were loaded with the proper ammunition for aerial combat (Pal - ? and high explosive shells) rather than with that used for low-level attacks. The inter-communication system was switched to "conference", so that each crew member could hear and talk with all the others. As soon as an enemy fighter was sighted, the alarm was given through the intercom and by Bosch horn and, when possible, was relayed by radio to any following aircraft and to the ground station. During night missions, especially when the moon was bright, the radioman and mechanic held a signal gun in readiness in order to blind the attacking pilot with its white flash.

Once the signal gun had been fired and the alarm given, it was up to the crew captain to direct the rest of the engagement.

The Qualities of the He-59 in Aerial Combat: Because the He-59 was so slow, it was relatively easy for an enemy fighter to catch up with it. Nor could the He-59 count on avoiding intermediate aircraft reporting stations after the first report had gone in until it had completed its mission and was on its way back out to sea. Once the enemy fighters had contacted an He-59, they should have had no difficulty in keeping close to it and in maneuvering into a favorable attack position. As a matter of fact, this possibility was exploited by only a few of the more skillful Red pilots. The firing of weapons and the actual operation of the aircraft during aerial combat can hardly have been problems for the Red fighter crews. The excellent flight characteristics of their aircraft, particularly their high degree of maneuverability, made it easy for them to outmaneuver an enemy by turning and changing their speed during the approach and at the moment of firing. The fact that the engines of the He-59 were relatively quiet probably meant that it was picked up late by the reporting stations and thus reported late. The He-59's stability under fire is a point which ought to be emphasized. The firing fields of the nose and tail guns were adequate for a biplane. The belly gun would have been much more effective if its rear and lateral firing fields had been more comprehensive. The same is true of the field of vision. When the airborne cannon was installed, however, the captain's starboard vision was seriously hampered. The gliding and climbing qualities of the He-59 were such that it could gain altitude quickly only when the fighters were quite close. In almost all cases, however, it proved to be able to glide well enough to reach low altitudes quickly. Only one Red fighter pilot ever succeeded in carrying out a surprise attack from below. Strangely enough, this happened in the beginning, before the squadron had had very much to do with enemy fighters. The He-59 was unable to take sudden refuge in the clouds, unless it had been flying just under the cloud cover.

Fire Discipline and Combat Range: Even at relatively long range (over 3,300 ft), the gun flash of the machine-guns was visible so that the enemy pilot knew immediately when he was being fired upon. When tracer ammunition or phosphorus bullets were used, the fire cone was visible even in the daylight. In anti-fighter defense operations the actual effectiveness of fire was less important than its effect as a morale-shaking factor. Defensive fire was intended to hold the enemy at a distance. Thus it was important that the defending aircraft open fire (in fire salvos of approximately five shells at a time) on the enemy at maximum effective range, so that the enemy pilot ~~t~~ realized that his presence had been noted. From the very beginning, each naval air squadron gunner was trained to watch his ammunitions supplies carefully. There were 825 to 900 rounds for each machine-gun, and 200 rounds for each airborne cannon. In long-range defensive fire from airborne cannon, it was important to make sure that the shells actually burst at 3,000 feet. The burst of high-explosive shells as well as the flash of the tracer ammunition were easily visible, so that the enemy pilot was bound to realize instantly that he was being fired upon by airborne cannon. Armor-piercing and high-explosive ammunition was used for ranges beyond 3,000 feet, fired in salvos of three shells each. More intensive fire (fire for effect) was begun at shorter range, approximately 1,300 feet. The gunners were expected to wait for the best opportunities to fire, either when the enemy target was relatively stationary or when its linear travel was at a minimum. Extended salvos to barrage fire strength were recommended. When the enemy was using his rigidly mounted machine-guns, the bearing was relatively stationary, which meant that the defending gunner had a better chance of scoring a hit. Sometimes a sudden burst of fire was successful in forcing the enemy aircraft to veer off, even though its engines provided a certain measure of protection. The critical moment in any fighter attack from the rear is the moment in which the attacker is forced to turn; there is always one point at which the bearing is stationary and ~~at~~ which the attacking aircraft presents almost its entire length as a target, and a target at fairly close range. This was the mo-

337

244 - a

ment for which the defending gunner had to be prepared, in other words he he had to be certain to save up enough shells for it. The distance between the aircraft at this moment varied from 1,600 to 350 feet, and in some cases was even less.

During the pauses in the fighting, the ammunition supplies had to be equalized among the various gun stations. Usually it was the tail station which used up all its ammunition first.

Defensive Maneuvers: As a matter of principle, the aircraft of the naval air squadron avoided combat with enemy fighters when they could. When enemy fighters were sighted, the squadron aircraft turned out to sea in order to shake them off, and then returned to complete their mission. When the squadron aircraft were flying in groups of two or three, this maneuver was not always necessary. In turning out to sea, the direction of the sun and the tailwind were fully exploited. Frequently the squadron aircraft were able to escape over the water without the enemy fighters' even catching sight of them. Against a cloudless sky, the squadron aircraft -- even when they were flying at fairly high altitudes (3,300 to 6,560 feet) -- dipped down to 330 to 656 feet above the ground or the water. This maneuver proved to be very effective indeed; in the first place it is extremely difficult to sight and locate, from above, an aircraft flying low over the ground or water, and in the second place, even if the enemy fighter pilot did manage to locate it, he had no way of maneuvering into a favorable attack position (i.e. below his victim). In short, this maneuver put the enemy into a difficult position. If he attacked from above, he ~~mm~~ could not go down low enough to turn under the aircraft under attack without jeopardizing the firing chances of his flexibly mounted machine-guns. A turn was always carried out either at the same altitude or at a higher altitude. The impact of the shells on the water, which could also be observed by the pilot of the aircraft under attack, served the attacker as aircraft guides in placing his fire. In case there were clouds, the ~~attacker~~ could detour into them, in order to escape pursuit. On one occasion, when a singly flying squadron aircraft was being attacked by four enemy fighters, it got rid of its bomb-load in order to increase its climbing ability. This type of maneuver was carried out automatically whenever enemy fighters were reported approaching. Other maneuvers were possible, depending upon the type and direction of attack. Most of these attacks

245 - a

340

came from behind and above. Once in a while, however, an enemy fighter attacked from the front. This method of attack was dangerous, although of very short duration, because it came so surprisingly; it could be assumed, though, that this method would be tried no more than once during an aerial engagement.

The tail gun station was the most important in defensive aerial combat, and usually had the best chance to fire. The machine-gun or airborne cannon mounted in the nose could only rarely be fired above the top wing. It was used primarily during a turn into the direction of the target. A fast-moving fighter aircraft coming up close to the machine under attack moved into the range of the nose gun, and banking towards the attacker increased the gunner's chances. Thus, as the enemy fighter veered off, he was automatically caught in the fire of two guns. The belly gunner, of course, hardly ever had a chance to fire while the aircraft was moving low above the water. If the He-59 had a cannon mounted in the nose station, it was always worthwhile to bank slightly (45°), in order to increase the chances of catching any fighter aircraft which might be standing by. In addition to increasing the chances of the airborne weapons, banking was also useful in that it forced the attacking aircraft to bank as well, thus jeopardizing its own chances of landing a hit. The effectiveness of this maneuver was enhanced by a temporary throttling of the engines. Coordination between the crew captain and the pilot was extremely important during this maneuver. Normally intercommunication facilities could not be utilized, because the crew captain and the radioman were (+). The crew captain was in a position to keep an eye on all the attacking fighters; he could follow their approach, see when they started to wing over, and direct the pilot accordingly. His observation area was usually towards the rear. The pilot, up in front, was able to follow the course of the attack fairly well by turning around occasionally, and to maneuver accordingly. These evasion curves were limited to approximately 45° , with the basic course, out to sea, remaining in effect. Deviation from the basic course had to be undertaken from time to time even though there were no enemy fighters attacking in order to bring any enemy aircraft which might be lurking behind the tail assembly into the sighting range of the tail machine-gun. The Red fighter pilots became more and more reluctant to attack squadron aircraft flying in groups of two or three. The ratio of strength was approximately 1:5.3:10. In principle the evasion maneuvers were always the same. In the event

246 - a

342

If an attack by enemy fighter aircraft, the following aircraft had orders to close the gap between themselves and the lead aircraft as quickly as possible, unless, of course, the attackers seemed timid, in which case a looser formation was permissible. Under these circumstances, the accomplishment of the various maneuvers necessary was

+ - Translator's Note: Sorry, but I'm stumped! The German text has "...da Kommandant und Funker im Luftstrom standen", which - according to all the sources available to me, means "...since the crew captain and radioman were in the air current or air flow". Perhaps you can make better sense out of it!

much simpler. The lead aircraft had no way of guiding the others by means of signals or radio communication. In banking to aim the airborne cannon, it was better to keep the target on the outside curve so that the aircraft could not interfere with each other's fire.

Conclusions: It is clear that the available fire power can be better distributed during low-level flight. Machine-gun defensive fire to the rear and upwards is ineffective, and the belly gunner has hardly any opportunity to fire. The situation might be improved if the mechanic could take over a second machine-gun mounted above in the rear of the aircraft. This gun should be mounted not on a rotating gun ring, but rather on something like a ventral gun-mount. Nowadays, in order to increase the fire power to the rear, airborne cannon are being installed in the tail gun station. In the case of a group of two aircraft, the lead aircraft would have its airborne cannon in the nose, and the following aircraft would have it in the tail. The technological specifications are ingenious; no practical experience is available as yet. Communication via intercom proved to be too poor, when the gunners were in the air stream⁺. Despite the use of phosphorus bullets with steel core, the machine-gun ammunition proved to be too ineffective. The training of the gunners was inadequate for the demands of aerial combat; they were often unsure of themselves as regards the most favorable firing possibilities and the firing technique itself. The sighting devices used with the machine-guns proved poorly suited to air-to-air firing.

+ - Please see Translator's Note on the preceding page.

10) The Ground Organization³⁶

In this particular sector a good deal of very valuable experience was gained during the course of the Condor Legion's operations in a foreign, though friendly, country. For the ground organization in Spain had to adapt itself to the conditions prevailing at that time in that particular place if it was to meet the demands made upon it. The most valuable experience for later developments lay in the demonstration of the fact that it was possible to conjure up runways and emergency airfields under the most difficult of conditions and -- in fact -- from scratch and to prepare a ground organization for effective operation within the shortest possible time. The ground organization personnel in Spain often had to resort to improvised solutions for their many problems, solutions which later proved to be extremely practical and useful; When their improvisations proved worthless, they had no choice but to keep on experimenting until they found a way to operate effectively.

It is obvious, of course, that the bomber units in particular posed a good many problems in connection with the organization of ground organization services. It is also important to note that the flying units in Spain learned to help in the establishment of their own ground organization installations; in some instances, in fact, it was the flying units which set up the ground organization entirely on their own, in addition to carrying out their flying missions on the side. The sharp distinction between the flying units, on the one hand, and the ground organization units, on the other, which had existed for some time in Germany, was unknown in Spain. There there were no airfield companies detached from the flying units to take care of ground organization matters. Instead, each squadron had its full complement of ground personnel and each squadron captain was charged with full responsibility for ground organization effectiveness. This system proved very satisfactory during the Spanish Civil War. Nevertheless, Luftwaffe leaders were quite right in refusing to apply it to

36 - The material in this subsection is based on the following sources:
Freiherr von Beust, op. cit., Part C, pages 119 and 120
Volkmann, op. cit., page 18.

the Luftwaffe as a whole, where, with the exception of the air units attached to the Army, the ground organization remained separate from the flying units.

Yet the experience gained by the Condor Legion in Spain bore definite fruit during World War II, again especially in the Eastern theater of operations; in many cases the smooth and efficient accomplishment of air missions could be traced back to ground organization systems which had profited from the experience gained in Spain.

II) Supply and Logistics³⁷

The fundamental supply problem encountered during the operations in Spain, namely the shipment of all Condor Legion supplies from Germany to Spain, has already been dealt with in Chapter II of this study.

Thus, at this point we need concern ourselves only with the question of how the various Legion bases were supplied with fuel, bombs, ammunition, spare parts, and technical equipment, and what experience was gained in the process.

To begin with, there were certain logistical missions (such as the provision of billets and food) which the flying units had to solve for themselves. In addition, until the ground organization system was functioning smoothly, they also procured their own supplies of spare parts and equipment. Thus the airfield commander had only to take care of procuring fuel and bomb supplies -- and this had to be done with any and all means at hand, in some cases even with the help of horse-drawn carts! In this respect, too, it was the need to operate under the most primitive of conditions which yielded the most valuable experience.

In spite of the difficulties occasioned by the inadequacy of supply and transport facilities, all supply requirements, including billets and food, were always met effectively enough that the operations of the flying units could be carried out smoothly and according to schedule. This was due not only to

³⁷ - Freiherr von Beust, op. cit., page 120.

250

346

the carefully thought-out organization of supply activity, which was wholeheartedly supported by the German Reich and by the Spanish agencies, but also to a talent for improvisation and the will to succeed on the part of the troops concerned.

It must be remembered that at no time during the Spanish Civil War were the Reds able to disrupt or even threaten the Legion's supply system by their air attacks.

The Legion's requirements in terms of personnel, aircraft, weapons, spare parts, and ammunition rarely came up to the estimates made originally, since -- as has been pointed out in Chapter III -- personnel and materiel losses were unexpectedly low; thus replacement supplies of the categories listed above could be reduced in favor of increased supplies of fuel and extra weapons and ammunition.

Antiaircraft Artillery

In the summer of 1936, twenty light antiaircraft artillery pieces arrived in Spain. Originally they were to be used only in the training of Spanish soldiers in antiaircraft artillery operations, but later on they were released for employment at the front. Part of them were used in the defense of the Legion air base at Seville, and the rest were employed to provide antiaircraft cover for the Nationalist troops during their advance towards the north. This latter mission, of course, provided ample opportunity to test the commitment of antiaircraft artillery against enemy pockets of resistance in direct support of ground operations. The flat trajectory and high aiming accuracy of the 20 mm guns were responsible for the first successes achieved by these weapons in ground operations.

X In September 1936 the first heavy antiaircraft artillery battery arrived in Spain and was immediately assigned to the focal point of operations, i.e. in the protection of the Nationalist troops fighting around the capital. It soon became apparent that the 88 mm gun was an exceedingly good weapon and that the firing tactics and techniques used by the German Luftwaffe were appropriate and effective. Although the battery was somewhat hampered by the fact that its crews were made up half of German personnel and half of poorly trained Spanish personnel, its performance during this first engagement was very good. Naturally it was impossible for a single modern antiaircraft artillery battery (the Nationalists had only old-fashioned, ~~but~~ inefficient guns at their disposal) to keep the airspace over Madrid free of enemy aircraft, especially since the Reds were fully aware of how dangerous it was to their operations and thus subjected it to repeated attack, as a result of which it was forced to keep changing position continuously.

38 - The material contained in this section is based on the following sources:
Aldinger, op. cit.

Adolf Galland, Die Ersten und die Letzten (The First and the Last), Franz Schneekluth, Darmstadt (the section dealing with the repercussions of the employment of the Condor Legion on the German Luftwaffe)

348

251 - a

Footnote 38 (cont)

Grabmann, op. cit., pages 8-10, 12, 14, 15, and 20

Veith, "Flakeinsatz während des Feldzuges in Spanien" (The Employment of Anti-aircraft Artillery Forces during the Spanish Civil War)

Volkmann, op. cit., pages 11 and 12.

314

252

Nevertheless, the initial success it achieved in bringing down enemy aircraft did provide a certain measure of relief for the Nationalist troops, for the Red bombers very soon began to drop their bombs from a respectful altitude of 13,000 feet and to disappear immediately as soon as the German antiaircraft artillery guns started to fire. Even so, it was obvious that a number of batteries would have to be concentrated around the Madrid area if a truly effective cover was to be provided.

By the end of the Spanish Civil War the Legion had a total of five heavy and two light batteries at its disposal. Approximately half of them were employed in the Nationalist rear area to provide protection for the Legion's airfields, while the other half was utilized at the focal points of the ground fighting. It soon became obvious that batteries which remained inactive too long gradually lost their ability to concentrate effectively in action. This problem was solved by frequent rotation between the rear area and front batteries; this measure also enhanced the spirit of competition and thus resulted in better and better records of enemy aircraft downed.

As has already been pointed out, both the heavy and light antiaircraft artillery batteries proved to be extremely effective in operations against enemy aircraft, at the front as well as in the rear area. For example, the record of eleven enemy aircraft brought down in five days during the battle of Brunete is certainly remarkable in view of the fact that the Red air forces had only about 200 aircraft at their disposal.

Despite the excellent results achieved against air targets, even at that time it had to be admitted that the 88 mm guns rarely succeeded in scoring direct hits against very fast aircraft, that the danger of being taken by surprise by high-flying aircraft was great, and that the range of the guns was not long enough to enable them to reach aircraft flying at a high altitude.

To an ever increasing degree the light and heavy antiaircraft artillery batteries, which were not employed to capacity in antiaircraft defense operations, were pressed into service in ground operations. Their employment against ground targets

gradually took precedence over over all other missions, as is evidenced by the war diary kept by the antiaircraft artillery units in Spain. During a total of 277 days of combat (including 104 days devoted to airfield defense operations), the antiaircraft artillery units were involved in 377 engagements; only 31 of these were directed against air targets, while the remaining 346 represented operations against targets on the ground³⁹.

The employment of the German antiaircraft artillery units in ground operations was also necessitated by the fact that the Spanish artillery, in terms of both the number and type of available guns and the training standard of the gun crews, was completely incapable of fulfilling the requirements of modern artillery operations. The German units, the light as well as the heavy batteries, were equipped with particularly effective weapons, which were even spectacularly successful against the tanks which were appearing more and more frequently on the Red side. It was discovered that the 88 mm guns, originally designed and mounted for vertical fire, ~~xxx~~ were just as effective in horizontal fire against tanks. Their extremely high degree of ^{high} aiming accuracy and the/muzzle velocity of their shells ensured their successful employment as antitank weapons, without any danger of damaging the mounting of the guns.

While the light batteries, in operations against both ground and air targets, usually fired directly by platoon, the heavy batteries were ordinarily employed in full battery strength. Sometimes, however, the front was so narrow that even the heavy batteries were broken down into groups of two guns each. In this type of employment the positions of the two guns were so selected that each was able to support the fire of the other. Sometimes a group of four guns was employed as a unit, with three of them firing at one target while the fourth was utilized against a secondary target, such as a highway intersection. By firing on two targets simultaneously, the units created an impression of greater artillery strength. Fire was usually directed from an observation post, although direct fire was ordered occasionally,

253 - a

351

against such targets as tanks, enemy machine-guns installed in bunkers or caves, etc.

39 - Veith, op. cit., page 1.

Apart from harassing fire on enemy supply transports, there were no night operations against ground targets.

The lessons learned and the experience gained by the antiaircraft artillery batteries employed during the Spanish Civil War affected the development and employment of the German Luftwaffe in the following ways:

1) A certain tendency to overrate the effectiveness of antiaircraft artillery (a tendency which had already come into being in Germany as a result of antiaircraft artillery testing results) led to the prevailing opinion that the antiaircraft artillery was the weapon to be used in antiaircraft defense operations, while the role of the fighter aircraft was relegated to the background. World War II, particularly in respect to German home air defense operations, proved that this attitude was erroneous.

2) On the other hand the high opinion of the antiaircraft artillery on the part of Luftwaffe leaders had a favorable result in that the antiaircraft artillery forces were doubled in strength as a part of the third phase of the expansion program in October 1937. This included the establishment of another antiaircraft artillery training regiment.

3) The successful employment of light and heavy antiaircraft artillery against ground targets, especially fortifications and tanks, led to the establishment of the antiaircraft artillery corps, which played such a significant role in the breakthrough of the Maginot Line fortifications and in the advances made by the German panzer forces during the campaign in the West in 1940 and in later campaigns.

The Signal Communications Forces

The employment of the Luftwaffe signal communications units in Spain was exceedingly varied. In the fields of aircraft reporting, air traffic control, and radio communication, they carried out the same missions they had been trained to do in Germany -- but over far larger areas and under far more difficult conditions.

The radio intercept service functioned rapidly and with exemplary efficiency, so that enemy radio messages were sometimes intercepted, deciphered, translated, and delivered to the appropriate command headquarters within a space of twenty minutes.

The telephone network in Spain was vast (its terminal points during the period from May through September 1938 were Cadiz, Leon, Burgos, and Benicarlo) and extremely complicated. In addition there a great many disturbances to be dealt with, occasioned by sabotage and damage in the combat areas. Together with the telegraph network, the telephone network proved a valuable aid to the agencies entrusted with the conduct of operations.

At the Legion headquarters, the commander usually had at his disposal two telephone lines, one telegraph channel, one radio channel and one ground-to-air communication channel.

The aircraft reporting service proved to be immensely valuable. The aircraft reporting company was employed on whatever sector of the front was necessary in order to guarantee an early-warning zone out in front of the Legion's rear area airfields. In consequence of the inadequate telephone communications, the company gained a great deal of very useful experience in the operation of an aircraft reporting network based almost exclusively on radio communication.

Ever since 1935 German air leaders had insisted that motorized aircraft reporting units would be an absolutely necessary part of the signal communications forces in the event of war, since the functioning of a reporting network based on radio communication depends upon the availability of a troop well trained in the operation of such equipment, a troop kept constantly up to date and in practice. The accuracy

255 - a

364

of their contention was amply illustrated by the experience gained by the signal communications units in Spain.

40 - The material contained in this section is based on the following sources:

Grabmann, op. cit., pages 10 and 11

Volkmann, op. cit., pages 12 and 13.

Other Forces1) The Meteorological Service⁴¹

The source materials available to the author do not give any indication of the way in which the meteorological service obtained the information needed for its weather reports and weather forecasts. Presumably the weather staff collected all the information to be had from Nationalist Spanish sources and also made use of whatever reports could be obtained from abroad. There were, of course, no reports available from the Red-occupied area of Spain, and only very few from France, North Africa, and England.

The lack of reliable reports naturally injected a significant factor of uncertainty into meteorological forecasting, quite apart from the fact that Spain, as a peninsula projecting far out into the Atlantic, has a very inconsistent climate and weather conditions which can never be predicted very far ahead. During the winter months, the high plateaus, such as the one surrounding Madrid, are very cold. In addition, the warm sea air coming from the Atlantic banks up against the coastal mountains of the Sierra de Gredos, Sierra de Guadarrama, the Cantabrian range, the Pyrenees, and -- in the south -- the Sierra Nevada, bringing fog, clouds, and the danger of icing.

As a result whenever the German pilots had to cross a mountain range, they were suddenly confronted by unexpected weather conditions and were sometimes in for an unpleasant surprise. Their commanders (as, for example, during the winter battle of Teruel, which we have already described) could not afford to be as considerate as they would have liked and often had to insist on a mission's being accomplished regardless of weather conditions. Consequently losses occurred which might otherwise have been avoided. Even very experienced crews sometimes crashed or had to make emergency landings with their bomb-loads due to the effects of icing.

41 - The material contained in this subsection is based on the following sources:
Freiherr von Beust, op. cit., pages 31 and 32
Jaenecke, op. cit., pages 120 and 121.

Even the combat-seasoned squadron captain (1st Squadron, K/58) crashed over the Sierra de Gredos, his bomb-load exploding at the impact. It took three days for the rescue expedition to work its way up the snow-covered mountains to the site of the crash. All the rescuers found were the remnants of his body, which the wolves had already discovered in the meantime.

Thus climatic difficulties in Spain naturally resulted in a feeling of uneasiness on the part of all the flying personnel, uneasiness which was intensified at the thought of the dreadfully brutal treatment they could expect in case they should be forced to land in or shot down over Red-held territory.

It was also unfortunate that the units had to fly at such a high safety altitude over the mountains, since this meant that they were flying in the clouds during the last lap before entering enemy territory. Since the formation automatically dispersed in the clouds, this meant in turn that the aircraft lost their concentrated offensive and defensive power and also that it was difficult, if not impossible, to make the rendezvous with their fighter escorts, which were usually standing by in Avila, Talavera, Maqueda, or Toledo.

On the other hand, of course, all these difficulties represented a harsh school of experience, and the German pilots rapidly perfected their skills in aircraft operation and in navigation. This stood them in good stead later on, during the long period of night missions and during bad-weather operations.

260
(pages 258 and 259 blank)

357

III. The Repercussions of the Experience Gained By the Condor Legion on the Command and Employment of the German Luftwaffe as a Whole during World War II⁴²

During the early phases of World War II, the repercussions of the Legion's experience in Spain were almost exclusively favorable.

The commitment of the Legion in Spain had given German Luftwaffe leaders a clear idea of the conduct of an -- admittedly limited -- air war over and beyond the front lines; the German air units and the antiaircraft artillery and signal communications forces possessed a cadre of personnel familiar at first hand with the tactical and technical experience garnered during the Spanish Civil War, and they possessed equipment which had been thoroughly tested under actual military conditions.

The negative repercussions of the experience gained in Spain, i.e. the erroneously interpreted or wrongly applied theories of command and commitment and the mistaken technical developments which they dictated, did not make themselves felt until later -- but then all the more painfully.

Germany was not the only nation forced to learn how dangerous it is/transplant the experience and conclusions gained in one war indiscriminately to another, or -- as a matter of fact -- even from one theater of operations to another.

At the outbreak of World War II, Italy, too, was still too firmly under the influence of the experience gained by her forces in Spain and Ethiopia. And Russia, in 1941, still adhered to the criteria applicable to operations in Spain and in the locally limited wars in Finland.

The danger inherent in comparing a civil war, a colonial war, or a locally limited conflict on the one hand with a global war on the other is, of course, quite clear. Command, planning, and technical developments can be all too easily guided into the wrong direction by the assumption of false premises, and the clarity of vision needed to recognize the demands of reality and the potential developments of the future is all too easily distracted or dimmed. Errors in planning, in tech-

42 - Freiherr von Beust, op. cit., Part C, pages 87-94.

nical development, and in the delineation of strategy often do not begin to take effect until later, when their origin has long since been forgotten; by then, unfortunately, it is usually too late to correct the original mistakes.

This is by no means intended to imply that German Luftwaffe leaders were in any way remiss in evaluating the experience gained during the Spanish Civil War or that the useful aspects of this experience were not fully exploited. It is quite possible that, if World War II had ended in 1941 or 1942, the negative effects might never have made themselves felt. It would also be fallacious, of course, to blame the experience of the Condor Legion in Spain for all the later defects noted in the German Luftwaffe. It is common knowledge that there were also other factors -- shortsightedness in the evaluation of military developments, underestimation of the enemy, political rivalries, etc. -- which played an important role. It cannot be ignored, however, that there are at least three factors which were to have disastrous repercussions during the later years of World War II which had their origin in the Spanish Civil War.

- 1) The principle of strategic bomber operations as a primary factor in bringing about a decision was relegated to the background.

Until 1936, in the opinion of the first General Staff Chief of the German Luftwaffe, the bomber aircraft was an instrument to be employed against the nerve centers of the enemy, his industries, his transport and communications networks, and his supply system. In the light of the experience gained in Spain, the bomber was degraded to a purely tactical instrument -- a function entirely unsuited to its purpose.

During World War II, the Western Allies proved the fallacy of the shift in German thinking. Today, the bomber aircraft is recognized -- even outside the framework of air operations themselves -- as one of the most important instruments in the military and political conduct of warfare.

- 2) The overwhelmingly frequent employment of the entire German Luftwaffe (i.e. not only bombers, but also fighter aircraft, reconnaissance aircraft, and antiair-

craft artillery) in connection with the operations of the Army on limited sectors of the front had the effect of practically subordinating an independent Wehrmacht branch to the Army, in complete disregard of its original missions and its potentialities.

3) Blinded by reasoning of this kind, German air leaders failed almost completely to recognize the potential effectiveness of the operations of a strong enemy air force (particularly strategic air operations) against the German hinterland. Failing to recognize it, they also failed to take it into consideration, thus underestimating it completely. The result was a neglect of home air defense measures.

The events of the Spanish Civil War had led to the establishment of certain principles, principles which were valid and applicable in Spain but definitely not suited to generalization. Yet as early as 1937 German air leaders began to shape their thinking and planning on the basis of the experience gained in Spain, and this attitude was firmly established by the time the war began. And during the last years of the war, when they gradually came to realize that they had made a mistake, they hesitated to draw the appropriate conclusions. In substantiation of this statement, let us refer to one example on the technical sector: the lack of a powerful long-range bomber and the constant dissipation of the He-111 and Ju-88 units in tactical missions along the front. The fiasco of the He-177 (a heavy bomber which was never completed) also serves to support the above statement, as do the desperate stop-gap solutions in the form of the "Mistel" or the bomb-carrying jet fighter (the "Blitz-bomber Me-262).

Understandably enough, the methods brought from Spain were also applicable in World War II, wherever the operations concerned were limited in terms of time and geographical extent, as for example in Poland (1939) and in France (1940). In these two campaigns, the Luftwaffe -- as in Spain -- was faced with a weak enemy air force, which could be presumed to have neither effective defenses nor independent offensive operations, in other words it was quite possible to dispense with operations against strategic targets in favor of tactical operations in support of the ground offensives.

262 - 2

360

Air attacks, such as those carried out against Warsaw, Paris, and a few other strategic targets were the exception rather than the rule, and as such cannot be considered in an overall evaluation of operations.

It was not until the Battle of Britain that the ~~warnings~~ of this development became apparent, when the strategic air units of the German Luftwaffe proved hopelessly incapable -- in terms of strength, technical equipment, and standard of training -- of fulfilling the mission assigned to them, namely to decide the outcome of the war against Great Britain by destroying her industries, her supply system, and -- no less important -- the morale of her population.

The next awakening came during the campaign in the East, when German military leaders were convinced that they could defeat Soviet Russia without an air force capable of strategic air warfare. By the time they realized that this was impossible, the prerequisites, the resources, and the opportunity needed to shift successfully to strategic operations were no longer available. The only instance -- brief but exceedingly successful -- of strategic air operations on the Eastern front was the air attack on Gorki and on Russian industries during the summer of 1943. The spectacular success of this one operation only serves to substantiate the statements made above.

During the various phases of the campaign in Africa as well, consistent strategic air operations over the enemy hinterland (specifically against naval targets and seaports) would certainly have had a favorable influence on the course of events.

A catastrophic concomitant of the lack of strategic thinking on the part of Germany's air leaders was their consequent inability to evaluate properly the strategy of the enemy and its potential results.

The impressive demonstration of British and American air strength over Germany was an unmistakable lesson -- and a bitter pill. Great Britain and the United States, unhampered by the heritage of previous wars and their resources unimpaired by the early stages of World War II, had recognized the requirements of modern, total warfare and despite a number of difficulties, particularly in the case of Great Britain, had transformed this recognition into action.

Germany, on the other hand, had not only neglected the potentialities of strategic air warfare for her own conduct of operations, but had also failed to take into

account, first, the enemy's failing in this respect and, secondly, the enemy's capability of transforming his failing into effective action. Errors of omission committed in connection with Germany's home air defense system and the constant dissipation and exhaustion of the appropriate air defense weapons (the fighter aircraft and the antiaircraft artillery) in tactical operations designed to support ground actions at the front can be traced back to this cardinal failure. Quite probably German air leaders were still too firmly under the influence of conditions in Spain, where there had never been reason to fear Red air attacks on the Legion's rear area.

Luftwaffe command circles, both before and during the second world war, were greatly influenced by the strong personality of Freiherr von Richthofen. The units under his command during World War II (the Close-Support Air Division during the campaign in the West in 1940; the air corps assigned to the middle sector of the front during the campaign in Russia in 1941/42; and the Air Fleet assigned to the southern sector of the Eastern front during 1942/43) were always the ones sent into action at the critical points in the ground operations. In his own method of operation, in the organization of his staffs and their subordinate agencies, and in the command of his units, von Richthofen was a firm adherent of "close-support tactics at all costs". Without exception he employed all his units in close-support operations on behalf of the Army, regardless of their degree of combat readiness or their suitability and usefulness for this type of operation. This also applied to the antiaircraft artillery. Again and again he employed them in large-scale operations requiring the participation of all available forces. The resultant attrition of forces, the losses, and the consequent need for replacements were all at the expense of other sectors of the front and other areas of operation; in the last analysis, of course, they made deep inroads into the substance of the Luftwaffe as a whole. It cannot be denied that von Richthofen's methods brought some spectacular results. Though often limited in terms of time and area, these results were undeniably tangible and thus very welcome to the Army, which, after all, benefited most by them. The inevitable consequence

264 - a

363

of this state of affairs was that close-support tactics were strongly propagated within the Luftwaffe and, during lengthy periods throughout the war, were applied as a general practice, often against the better judgment of the commanders in charge and the leaders of the individual units.

After the Battle of Britain, the first negative aspects of this development began to become apparent on the Eastern front, during the autumn of 1942. Although they suffered tremendous losses at the front, the Russians were able to make them up and even to reinforce their strength because their industries, their oil refineries, their transport and communications networks, and their supply system in the hinterland had hardly been subjected to air attack, not even at a time when the German bombers would have been fully capable, in terms of range and strength, of delivering destructive blows against these targets.

In 1943, when it was apparent to all concerned that a fundamental error had been committed, it was too late to change the method of employment of the Luftwaffe. While close-support tactics had been employed by choice up to this point, after 1943 they continued to be employed by necessity, since the overall military situation permitted nothing else. This was true not only of the Eastern front but also of all the other theaters of operation and the home front. From this time on, von Richthofen's influence began to diminish, and the method of employment he developed in Spain was recognized to be out of date. It would, of course, be unfair to von Richthofen as a personality to evaluate his very real accomplishments in Spain and during World War II and his many contributions to the general field of "coordinated operations of Luftwaffe and Army" exclusively from the point of view of the negative aspects described above. After all, it was the responsibility of the Luftwaffe top-level command to keep the tactical employment of the air units within a reasonable limit without losing sight of the need for strategic air operations as well.

s/ Karl Drum

Nussdorf, 12 April 1957

General der Flieger a.D.